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Remarks on the Tonic Treatment of Phthisis, with Cases of Dyspeptic Phthisis, by JOHN HUME, M. D.

(From the Quarterly Journal of Foreign Medicine and Surgery.)

Although an infinity of essays have been written on Phthisis, some of them by men of distinguished talents; I beg leave to offer a few remarks on that subject, in which I have no intention to trouble you with a minute detail of cases or dissections, but merely to give the result of my experience in that disease for the last twenty years.

In the neighbourhood of Hamilton, which Dr. Cullen, with a pardonable partiality, used to call the Montpelier of Scotland, and whither he has been known to send his consumptive patients, the cases of Phthisis which occur are not numerous, and this is no doubt in a great measure owing to the comparative mildness of the climate. The mean temperature of the air is about 50° of Fahrenheit. There are no hills in the vicinity of the town, but the country rises gradually all round it for some miles, to the height of from four to eight hundred feet above the level of the sea; except in a north-west direction, where the Clyde proceeds towards the Atlantic. The prevailing wind, perhaps for nine months of the year, is from the south-west; and in the months of November, December, and January, it is sometimes very high, and attended with much rain. The frost seldom continues long, and occurs generally in December and January. The mean height of the Barometer is 29 1-2 inches.

The origin of Phthisis, for the most part, is attributed, in this neighbourhood, to cold; but it is not those persons, of either

sex, who are most exposed to the vicissitudes of weather, that are most liable to its attacks. It is the female who is generally confined to the house by some sedentary employment, or the sedentary artisan, who most frequently become its victims; whilst those escape, as I have just said, who are much in the open air and in constant motion. Yet this fact, though forcibly pressed upon our observation, had, at one time, and still has, in many instances, little effect upon our practice. Instead of imitating nature, and inuring the patient who is threatened with Phthisis, to exercise in the healthy breeze of the open day, we too often confine him to the house and consign him to inactivity, and a stagnant, and perhaps an unwholesome atmosphere, especially if he be of the lower order. And to make the disease more speedily fatal, we put the patient upon a spare diet, and farther destroy the tone of his stomach with deleterious drugs, particularly digitalis. In short, we believe the disease to be inflammatory, and not in a chronic but an active form; and even in its last stage, we but too often draw out against it the whole array of the antiphlogistic regimen.

Such were my views of Phthisis fifteen years ago, and I was so impressed with the fatal nature of hectic fever, that I was apt, at least mentally, to give up all hope of the patient who was subject to it. E. W. an unmarried lady, betwixt 30 and 40 years of age, had, during the winter of 1807 catarrhal symptoms, attended with slight hœmoptysis. In March of that year, she was visited by a late eminent Surgeon of Glasgow, to whom, a few days afterwards, I wrote concerning her, as follows. "She is weaker than when you saw her, still loathing every kind of food, and taking little or nothing to support her but wine. The only sleep she obtains is from the opiate. She is generally chilly through the day, and always in the night, till a sweat, breaking out towards morning, relieves her. She still complains of pain and tightness in her right side. The cough, however, is not severe, and at present she has no purulent expectoration; but the spitting of blood has returned. Her pulse is 120 and feeble. Her bowels are always bound, except when moved by the Pil. Aloes c. Myrrha. She has taken four grains of prepared steel every day, since you saw her, and a tea spoonful of Tincture of Columbo; upon the whole I see no reason to alter my opinion that she is consumptive, and that there is little hope of her recovery. I gave you my reasons for agreeing to the tonic plan of treatment, which I believe the doctrine of the schools has condemned in Phthisis." This lady continued for some weeks in a very precarious state. Her fever, in a short time, assumed a very distinct tertian type, returning every second day at the same hour, with a severe shivering, which last-

ed about fifteen minutes. Purulent expectorations, alternated with spitting of blood. Her morning perspirations were not lessened. She became extremely weak and emaciated; yet she could not be prevailed upon to keep her room, but always came down stairs to the parlour. The tonic plan of treatment was continued. As soon as the first daisy appeared on the ground, I walked out with her for a few minutes, and had her out every day, till her appetite began to improve, and she could extend her walk to some distance. Then I mounted her on horseback, and persevered through the summer with that exercise, although I saw her frequently spit out blood during the ride. Dr. Baillie having been consulted on her case, recommended the warm salt water bath and change of scene. This was complied with, and she gradually recovered health and strength; and the patient, whose life I once despaired of, is now a stout fat woman."

D. M. an officer of the Royals, a young man of a somewhat corpulent appearance, was seized with very profuse hœmoptysis, in the winter season of 1804. As his pulse was strong and quick, he was bled largely, and took the acidulated infusion of roses, with Saline laxatives. Under this treatment the hœmoptysis disappeared, but having in a short time returned, the same treatment was repeated, and with the same success. By this time the patient was much reduced. Hectic fever made its appearance and a very profuse purulent expectoration. He became very deaf. At this time a Staff Surgeon, who had once been in the Royals, visited him, and proposed the employment of digitalis; but as I objected to that medicine, he prescribed some mild pectoral medicine. Merely as an experiment, I now put him on the use of calomel, combined with prepared chalk; of which he was to take a powder twice a day, containing a grain of calomel and two grains of chalk. Although constantly confined to bed, he had a keen appetite; and thinking the case desperate I allowed him to eat any thing he pleased; but advised him to live chiefly on milk. He complied with my advice so earnestly, that for some weeks, he took the almost incredible quantity of eight quarts of milk every day. He took three dozen of the above mentioned powders; but without having his mouth in the least affected by them. Occasional opiate and pectoral medicines were administered. As the spring advanced his hectic symptoms abated, and in May I had the pleasure of mounting him on horseback, and, in a few months, he recovered nearly his usual health. He soon after sailed with his regiment to the West Indies, and in a few years I had the pleasure of seeing him again at Hamilton in perfect health.

L. A. a married Lady, in her 65th year, had been for a long time in an infirm state of health, principally from chronic Rheumatism. She was seized with giddiness in March 1816, which continued till the latter end of June, with little or no abatement, in spite of the various remedies employed. She was now seized with feverish symptoms, attended by cough, soreness of her mouth and throat, and difficulty of swallowing. Although her fever was violent, the emaciation and debility of her frame were so great, that I dare not use general blood-letting. However, I used the antiphlogistic regimen to a certain extent, applied leeches and blisters to her throat, and used gargles. The mouth, tongue, and fauces were now covered with a whitish slough, and swallowing became so painful and difficult that I was apprehensive of fatal consequences, particularly as the cough was still severe, and respiration by no means easy. The mind, however, was unaffected. In addition to the above symptoms, she complained of pain in her chest. I then determined to put my trust in blisters, and applied them repeatedly to various parts of the thorax, till the threatening symptoms were subdued, and the mouth and throat began to look clearer. Pectorals were administered, but not in great quantity, as the patient had a natural irritability of stomach which made her very readily loathe such medicines.

By the 20th of July, the feverish symptoms were greatly lessened, but there was much cough, and an expectoration of purulent matter. She was also much troubled with flatulence, and there was an entire loss of appetite. At this time the rheumatic pains had left her. For her cough and spitting, and to procure sleep, I prescribed pills at bed-time, composed of opium, kino, carbonate of ammonia, and extract of chamomile; and to improve her stomach and general strength, I gave her bitters, prepared with gentian, columbo, aromatics, and carbonate of potass. Her bowels were kept regular by gentle laxatives. To repress feverish irritation, and check the spitting of purulent matter, she was ordered pills, composed of kino and alum, but her stomach could not bear them. By the beginning of August she was gradually introduced to the open air, first in a carriage and afterwards on foot, and by the 20th of October, the expectoration was almost gone, though there was still a great deal of cough and debility. I now prescribed for her pills, composed of extract of gentian, carbonate of iron, and aromatics; and under their use she not only recovered her appetite, but gained a much greater degree of strength than she had possessed for some years. They were continued till the latter end of November, when, unfortunately, the patient caught a fresh cold.

During December, her cough was exceedingly severe, and came on in paroxysms, at uncertain periods, with purulent expectoration, at times streaked with blood. Her pulse varied from 68 to 90. There was a degree of chilliness occasionally, but no distinct hectic fever. A full inspiration produced a fit of coughing, but its sound, to my ear, did not indicate that the cells of the lungs were much stuffed; nor did any pain attend the inspiration. Her appetite was rather good, but her emaciation great. She slept well, but that she attributed to the pills of opium and kino, which she had never omitted since her summer attack. She had one or two blisters put to her chest, and she used gentian and columbo in infusion. Her bowels were kept open by the Pil. Rhei Comp.

In January, 1817, I drew up a statement of her case for Dr. Gregory, who prescribed hemlock pills and decoction of bark. The pills did not agree with her; but she took some of the bark decoction, and as the spring advanced, she gradually recovered, under the use of steel and bitters. For her cough, which continued to teaze her very much, I found nothing so beneficial as a mixture composed of Acetum Scillæ, Flores Benzoini, Nitrous Æther and Syrup. It acted upon her like a charm. During the summer, she took much exercise, and went two journeys to the distance of thirty miles. She continued the same plan winter and summer, & enjoyed, excepting a slight cold occasionally, good health for some years. Yet she could never lay aside the compound opium pills, though she never increased the dose. At length, in the summer of 1821, when thirty miles distant from Hamilton, she was seized with feverish symptoms, and with a pain in her side, for which a respectable practitioner bled her from the arm. I was called to see her; at which time she was in a state of languor, approaching to stupor, which carried her off in a few days; her vital powers being quite exhausted.

E. L. an unmarried lady, in her twenty-eighth year, of a family in which there had been instances of phthisis, consulted me in January, 1822. Though not of a very robust constitution, she had been enabled, till of late, to take much exercise in the open air, and often on horseback. Then she used to sleep ten hours; but now hardly five; and her want of sleep at present is occasioned by a kind of restlessness, difficult to describe, but which is not owing to any sort of alarm. The heat of her skin is natural in the middle of the day, and she has no sensible perspiration at that time; but about seven in the evening, there is a considerable degree of heat on her skin, alternating occasionally with a chill, of about ten minutes duration, and followed at length, by sensible perspiration, which, however, abates before

she goes to bed, betwixt ten and eleven. During the continuance of the heat she is very thirsty. She has pain in short twitches, and sometimes for a whole afternoon, in the left hypochondrium; but on certain days she does not feel it; yet on drawing a deep breath, she is always sensible of a slight pain. She complains also of pain behind the left scapula, and of great weakness in her back. She has often pain all over her brow; and, at such times, the brow is generally very red. She has a dry cough, which is hard at times. The pulse is 80, and feeble. Her tongue is clean. She has very little appetite to breakfast; she can eat a little at two in the afternoon; but betwixt five and six she can take no dinner. Her diet is always very plain. She has no immediate sickness after eating; but, an hour after, she is troubled with heartburn. When the weather is fine, she walks out, about an hour every day, without being much fatigued; but, after walking half a mile, she is rather short of breath, and inclines to perspire. She also sometimes rides on horseback, or in a carriage. Formerly she could read aloud for a long while, and with ease; but now she never attempts it. Her bowels are generally costive. The menses appear at the usual time, but in small quantity; and generally there is a very slight appearance of leucorrhœa.

This lady used the vinegar and water friction, as recommended by Dr. Stewart; took laxatives of various kinds, so as to regulate the action of her bowels; was put upon alternate courses of steel and bitters, and took a good deal of exercise in the open air. She also had repeated blisters applied to her side, and at times she used the tartar emetic ointment, so as to produce numerous crops of pustules. In the early part of summer, though her health was much improved, she was sent off to Lisbon; whence I had the pleasure of seeing her return, in the beginning of October, in perfect health.

I could give many more instances of recovery from purulent expectoration and hectic symptoms by the use of tonics and well regulated exercise in the open air, were it at all necessary. Cases, however, have occurred to me, as they must have done to every man who has practised medicine for some time, which at first did not appear in the least unpromising, but terminated fatally in a very short time. Hence the young practitioner should use every precaution against this deceitful malady; for in no one is it more necessary, *principiis obstare*, than in this.

Thus phthisis, in its incipient state, will sometimes, for months, assume the appearance of a stomach affection, attended with debility, languor, headache, giddiness, flatulence, nausea, vomiting, and costiveness; without cough or a single hectic symptom;

and whilst the physician is directing all his attention to the gastric symptoms, the real disease is making a very gradual but sure inroad on the constitution. Such appearances, however, occur most frequently in the delicate female in the higher orders of society, who is fond of sedentary amusements, and cannot easily be prevailed upon to breathe the refreshing gales of the country, but who will cheerfully sit up half the night at a ball or a music party, dancing, as Dr. Gregory says, in his strong language, into her coffin. Many of these I have known fall sacrifices to the disease; whilst, in the country, I have known a young servant girl, with an asthmatic cough, and an occasional spitting of blood, live for years under her complaint, and, perhaps, at length recover, although exposed every day to the vicissitudes of the weather. I have often recovered young persons of the middle ranks, who had been necessarily much confined to the house, by sending them twenty or thirty miles from home, and enjoining them to take exercise in every possible shape in the open air, and to use, as the same time, some of the most approved tonic remedies. But I presume that such treatment is familiar to most medical men.

I may here mention that I have known several instances of early pregnancy in unmarried females assume, most accurately, the appearances of incipient phthisis. Yet in these cases I have observed a kind of anxiety, or secret fretfulness of mind, which is very rarely a concomitant of phthisis. But here it is the absence of the menstrual discharge that is most complained of, or it is that which we are most earnestly solicited to restore; and physicians, in similar circumstances, cannot be too much on their guard; for I have known a case of pregnancy mistaken for a combination of phthisis and dropsy by one of the present ornaments of medicine.—"Honestæ etiam matronæ hac de re interdum decipiantur, et medicos ideo in turpen et periculosum errorem ducunt: innuptis vero, ex plebe saltem, de mensium defectu conquerentibus, propter causas satis manifestas nunquam temere credendum est."

In the treatment of phthisis, I wish we could attend solely to the *juvantia et lænentia*, and try not to be influenced by hypothesis, or at least by every new one which is introduced. In my opinion, with all our boasted acquirements, we have made very little improvement on the theory of Galen. He thinks that the acrid humour of catarrh, gradually descending into the lungs, first corrodes, and then ulcerates them. The concomitant fever of this state is hectic, which is to be subdued by the internal and external use of refrigerants. Such is his hot consumption, where wine or stimulants are evidently improper. But in his tabes frigida, which he likens to the emaciation and debility of old

age, he recommends the warm bath and cordials. In short, it would seem that his hot consumption, with hectic fever, is our incipient phthisis, with strong inflammatory diathesis, and his *tabes frigida* is phthisis, accompanied by emaciation and debility. Hectic fever, he tells us, may accompany the disorder of any internal organ, and is more or less curable in proportion to the greater or less expenditure of innate moisture; being altogether incurable when that is nearly expended, or, in other words, when the patient is reduced to a state of extreme emaciation or debility. These opinions will be found in Galen's Treatises de sanitate tuendo, de differentiis fobrium, et de Marasmo.

Were it likely to be of any use, I could give cases where I have used blood-letting, digitalis, astringents, particularly kino, alum and superacet. plumbi, vinegar, and other acids, expectorants, balsamics, and tonics. It will be sufficient, I imagine, to mention the result in general terms. Unless in the first attack of hœmoptysis, when every thing indicated strong inflammatory action, I have always found that general blood-letting hastened the fatal termination of the disorder; whereas, local blood letting is often serviceable, if previously the patient is not too much reduced. In one case, where hæmoptysis had returned with unusual violence, and when there was apparently strong arterial action, venesection was employed with immediate relief of the urgent symptoms, but in a day or two, purulent expectoration followed, with hectic fever, which continued till the patient's death. The same opinion may be given of digitalis. In inflammatory cases, and when the patient is not much debilitated, I have used it often with decided benefit; but when there is purulent expectoration and debility, it is worse than useless; and I fear that, in this country at least, he who expects from it the advantages experienced by Dr. Magennis will be disappointed, at least, I have been. In one case, when the pulse was 120, and feeble, and when there was much purulent expectoration, I gave it, by the advice of an eminent physician, from the 28th of March to the 11th of April, gradually increasing to 100 drops of the tincture in twenty-four hours. It was discontinued, on account of its causing pain in the stomach, want of appetite, and waking dreams; in fact, the patient, without knowing what it was, refused to take any more of it. It certainly lessened febrile action, and produced a great flow of urine; but in this, as well as every similar case I have used it in, there was great reason for believing that it hastened the patient's death. The trials made with the Prussic acid, in this neighbourhood are not much in its favour.

Of astringents, I think that kino, when joined with opium, has

often a very great effect in lessening expectoration and repressing febrile action; and in several cases, where I used superacet. plumbi, in conjunction with opium, I was at first very sanguine in my expectations of a cure; but, in the end, it proved equally unavailing with other remedies. However, it seemed to produce no bad symptoms; and it evidently palliated the pectoral affection and its concomitant fever. The pills of Mons. Orban were also attended, for a short time, with the same good effect; however, they too are but palliatives. The same may be said of vinegar and other acids in various forms; of which, perhaps, the best is the infusion of red roses, acidulated with muriatic acid, and made palatable with sugar. I was led to the use of muriatic acid in phthisis, from having found that medicine eminently serviceable in scrofula, when taken for a long while in large quantities. An excellent pectoral mixture is made with treacle, honey, vinegar and laudanum. Syrups, prepared with balsams of Peru and Tolu, form a medicine agreeable to the patient; but they are merely palliatives; and the same may be said of all mucilaginous and oily mixtures. In some constitutions, the squill made into a balsam, with flowers of benzoin, nitrous æther, and syrup of sugar, seemed to have a wonderful effect in allaying, or even obviating, if taken in time, such coughs as harrass the patient in severe paroxysms.

But of all the modes of treating phthisis, either incipient or confirmed, the tonic appears to me to be decidedly the best; and which, though it certainly cannot cure confirmed phthisis, prolongs the patient's life and renders him much less susceptible of those annoyances that unavoidably, for a long time, precede death. But, to be successful, this treatment must be commenced at a very early period. Then, provided there are no violent inflammatory symptoms, frictions, with cold vinegar and water twice a day, on the breast, or the whole body, till the skin is quite dry, exercise in the open air, or on horseback, in a carriage, on foot, or in a swing, according to circumstances; nourishing, but plain food, taken at such intervals as not to load the stomach, with the occasional use of steel and bitters, are the most proper remedies. Pain in any particular part may be removed by the application of leeches, aromatic embrocations, blisters, or the tartar emetic ointment. From the few trials which I have made with this remedy, I am inclined to have a very favourable opinion of it: for when pustules have been excited by it, they have never failed to give wonderful relief to the internal symptoms, although they themselves may have occasioned very considerable irritation. In one case, however, where even its frequent application failed to produce pustules, the pa-

tient complained of inexpressible anxiety and uneasiness in the epigastric region.

The greater part of this plan, I confess, is borrowed from Dr. Stewart; although, long before I knew how he treated phthisis, I had appreciated the good effects of bracing remedies, and had employed many of them; and, in debility, or irregular action of the bowels, had often used, with the very best effect, a powder composed of crab's-eyes, rhubarb, nutmeg, ipecacuanha, and ginger, given so as to prove gently laxative.

Dr. Stewart was led to the peculiar practice which he has adopted in consumption, from reflecting attentively on some of Dr. Gregory's statements, when lecturing on that disease. In the opinion of that celebrated physician,—and indeed, of that of many others,—consumption, in the generality of cases, originates in a scrofulous constitution. What then is the cure, or the attempt at cure, in scrofula? Is it not to invigorate the constitution by rich and generous diet, by exercise in a pure and open air, particularly near the sea-side, and by the cold bath? If such be the mode of cure directed for scrofulous ulcers on the surface of the body, is it not natural to believe that ulcers of the lungs, probably arising from a scrofulous cause, will be equally benefited by a similar treatment?

In cases where the skin glows with much heat, where the pulse is firm, strong and quick, with severe topical pain, Dr. Stewart sees, at once, the propriety of using the antiphlogistic regimen; and in this he entirely agrees with the far greater number of physicians. But, would he do so when the patient is enfeebled, where there is merely chronic inflammation, and where, though the pulse is quick, it is so only from debility? Surely we should not argue, from the patient having a quick pulse, that he should be put on a lowering diet and use debilitating remedies. Is it not notorious that, on the approach of death in very old or infirm persons, the pulse beats with a very increased quickness? When the heart has little ability to send forward its contents, its efforts, of course, are more feeble, but, at the same time, they are more frequently made. That quickness of the pulse, then, and febrile heat which are occasioned by ulceration of the lungs, in conjunction with chronic inflammation, cannot be cured, in the opinion of Dr. Stewart, by such means as will depress the general vigour of the system. If a patient, of an emaciated habit, with feverish symptoms, had foul ulcers on his limbs, would any one of our modern physicians prescribe blood-letting and purging as the best means of curing him? Or would he direct all his attention to the very slight inflammation at the edges of the ulcers, and neglect en-

tirely the constitutional derangement? Would he not try rather, by a nourishing diet, mild cordials and bark, to invigorate the system, that the vessels may recover their native tone, and, instead of a vitiated secretion depending on debility, be enabled to exude a healthy lymph, which may form granulations and consolidate the diseased surface! The very same thing Dr. Stewart wishes to effectuate in cases of internal ulceration and debility. In consumption, he gives nourishing diet, pure or diluted wine, bark, steel and other tonics; he uses exercise on horseback or in carriage, or in any other practicable mode; and he employs friction with vinegar and cold water; all with the design of bracing the system, and enabling it to assume that healthy action which alone can render it capable of resisting the sudden vicissitudes of our climate. In short, if he cannot make the weather suit his patient, Dr. Stewart tries to make his patient invulnerable to its attacks. He has been accused of giving wine and beef-steaks to a person who is spitting blood, and at the same time under the influence of strong arterial action. So far from this being the case, he would be amongst the foremost, in such cases, to recommend the antiphlogistic regimen, and even to administer digitalis, a medicine which he unequivocally condemns in phthisis. But even in chronic inflammation, and ulceration of the lungs he approves of blistering, and makes no opposition to the occasional employment of topical blood-letting. He pays the utmost attention to the regular evacuation of the bowels, and at the same time, takes great care not to give heating cordials.

I regret that I cannot give a more detailed account of Dr. Stewart's practice; but I hope that it is not misrepresented. I know that the late Dr. Gregory lent all the weight of his great name to sanction it, and even carried the treatment to a far greater length than was ever done by Dr. Stewart. In the convalescence from fevers, we are every day taught that a quick pulse is no obstacle to the use of cordials. In a case of this kind, and at the moment when the patient had lost, by stool, about four quarts of blood, I prescribed wine, brandy, and laudanum, with the happiest effect.

All this may appear very trifling to some persons; but I am confident that if every physician who has been many years in practice, would candidly state the result of it, medicine would in this way, make a much greater progress than can possibly be made by the tedious detail of innumerable insulated cases. However, I am not adducing the foregoing remarks as an example of this kind.

II.

On the Pathological Anatomy of the Human Brain and its Membranes. By David Craigie, M. D.

(From the Edinburgh Medical and Surgical Journal.)

It is the practice of many to explain all changes in the animal body by the operation of a single set of organs. Some, for example, erect their altars to the vital principle; a great many to the sanguiferous system; and not a few consider the brain and nerves as the universal agents of good and evil. But he who attempts to explain all things by these isolated means, only demonstrates the impossibility of explaining any; and the accommodating and convenient application of which each admits to every possible case, shows satisfactorily that they cannot all be in the right. It is too much for any individual to expect that he will be entirely exempt from the general sources of fallacy and error to which all seem to be liable; and a gradual approximation to the true and natural representation of causes and effects, and of the connexion of events, whether simultaneous or successive, is all that the most sagacious observation and most penetrating intellect may hope to attain. To some these remarks may seem very unequal to the real importance of the subject; but I have some reason to believe, that the observations with which this Essay is to conclude may be new to some, and therefore unexpected; unnoticed by authority, and therefore unwarranted; and I have thought it not unnecessary to anticipate any misconception to which they might give rise. I shall not attempt to show, that most of the affections to which the brain is liable depend on a peculiar condition of the heart and great vessels; but my present purpose is, to make some remarks on the connexion between morbid states of the heart and great vessels, and morbid states of the brain and its membranes.

It is very well known, that, when the heart is diseased, it never fails to derange the functions of many other organs, and to induce effects which had been long mistaken for primary diseases, till more accurate and intimate knowledge of the maladies of the circulation, showed that they were mere secondary results. Many disorders to which the organs of respiration are liable, were habitually ascribed by practitioners to affections of the lungs and their appendages, till it was found that a very great proportion indeed of these was actually induced by morbid changes which had taken place in the heart, and the parts immediately connected with it. It does not appear, however, that any pathologist has particularly examined those effects to which the diseases of circulation give rise in the cerebral organ;

yet it cannot be doubted, that a very real and great influence is exercised by the former on the latter. M. Corvisart, who has observed with such accuracy, and described with such clearness the diseases of the heart, scarcely hints at the subject, and dimisses it in a single brief and rapid section; and yet he had before his eyes a very striking example in the person of a distinguished member of the profession.* I cannot account for this singular oversight, as I deem it, in any other way, than by reminding my readers how very natural it is to overlook, in pathological autopsy, any changes which may have taken place in different organs, when one presents enough, as it has been said, to account for the symptoms. A man, for example, falls down in a fit of apoplexy; he is carried home, and treated in the usual manner; he perhaps recovers, to fall a speedy victim again to his disease; perhaps he dies, and his head is inspected. The physician finds blood or serum extravasated, and concludes his examination, perfectly satisfied with the result. He naturally does not think of carrying his autopsy into other organs, when the symptoms are accounted for according to the usual doctrines; he never thinks of tracing the chain of morbid events any further.

About five years ago, my attention was forcibly called to this subject by a case, the particulars of which I shall detail very briefly. I then thought it might be an exception to the general character of cerebral diseases, and I consequently endeavoured by all means, to ascertain whether it were really so or not. I have since had occasion to examine a very considerable number of cases, and have found that the connexion between the two events, of disease of the heart and disease of the brain, is a great deal more common than I anticipated; and I have known cases which were examined by professional friends, in which the same connexion existed, though it did not occasion particular remark. It would very much exceed the limits within which I must restrict this paper, were I to detail all these cases; and it would certainly be mistaking, in a great degree, the object which the author of a paper of this nature ought to have in view. I shall therefore notice only three examples of the fact; and, as these were very characteristic, they will illustrate and confirm the opinion I have advanced quite as forcibly as if I had described as many hundreds.

1. P. E., aged 22, was attacked, rather in a gradual and insensible manner, with constrained and difficult breathing, and a sense of full-

* Malpighi.

ness, tightness, and anxiety in the chest. These symptoms did not attract particular attention, until he observed his feet becoming œdematous, his urine scanty and high-coloured, and, above all, his sleep interrupted with frightful dreams, attended with violent palpitation. These complaints at length compelled him to take medical advice; and the physician whom he consulted, justly ascribing the symptoms to hydrothoracic effusion, began, however, very soon to perceive, from the irregularity of the pulse, the violent and unequal action of the heart, and the progressive course of the symptoms, which presented neither alleviation nor interruption, nor seemed to be connected with any state of the gastric viscera, that some disorganizing process had commenced, and was going on in the central organ of circulation. Notwithstanding the diligent employment of such means as were calculated to remove the effused fluid, and control the action of the heart, the disease advanced progressively; and one day, after feeling an extraordinary degree of giddiness, with some tinnitus aurium, he staggered towards his bed, and fell down in a state of hemiplegic paralysis. Leeches and a blister were applied to the head, purgatives were administered, and the feet were irritated with sinapisms, but his recovery was merely partial; the slowness and irregularity of the pulse, which was generally about 42, and almost never exceeded 54, continued; the sense of suffocation was not remarkably urgent, but this patient died, with symptoms denoting at once syncope and paralysis, exactly three weeks after the attack of hemiplegia.

A notable quantity of fluid was found between the arachnoid membrane and the pia mater, especially in the vicinity of the venous trunks. About three tea-spoonfuls were found in the ventricles. Both the convoluted and the central surface were, in other respects, sound; but in the region of the striated body of the right hemisphere, a recent formed cavity was found in the cerebral substance. This disorganized space was about one and a half or two inches long, and one inch broad; its surface was rough, irregular, and hard; its colour was rather redder than natural. In the heart, the left auriculo-ventricular opening was very much contracted, and, instead of the mitral valve, with which this opening is surrounded, there could be found only a uniform ring of bone, very irregular in appearance, and various in consistence, but which had been evidently produced by the thickening, enlargement, and disorganization of the valve.

2.—A. B., aged about sixty, was found by the police, in the vicinity of the Leith Docks, in a state of insensibility and loss of voluntary motion, which were supposed to arise from external injury or intoxication. When, however, his head was shaved, it exhibited no marks of violence; and though his general aspect was that of a person addicted to habitual ebriety, yet his breath did not exhale the strong and well-marked odour occasioned by recent drinking. He was accordingly blooded very largely; cold was applied to the head; and the bowels were evacuated by means of ememata. In the course

of a few hours he became more sensible, moved his limbs, and uttered, in his attempts to speak, inarticulate mutterings. The venesection was repeated; and the other treatment, calculated to obviate the effects of cerebral congestion, was continued. It was evident, however, that he was paralytic in most of the voluntary muscles. Speech was entirely lost; the extremities were moved only imperfectly; the urine was educted by the catheter; and, when he had continued in this condition for about thirty hours after he was first seen, he passed from complete and uninterrupted coma to the state of general death.

The whole convoluted surface of the right hemisphere was occupied by bloody effusion; the cerebral substance corresponding to it was broken down and disorganized; the folia of the cerebellum were covered, and their interstices filled with blood; and the moriform body of the right side was considerably affected. The annular protuberance was more completely the seat of extravasation than any other part. Its inferior surface was quite covered; and when its substance was exposed by incision, blood was found regularly deposited between the transverse fibres of which it is composed. I found the whole aorta, from its origin at the left ventricle, to about two inches below the arch, completely ossified; the semilunar valves thickened and ossified; and the aortic opening much contracted.

3. I lately had occasion to examine the body of a patient who died under circumstances which rendered it impracticable to ascertain any thing concerning her symptoms during life. A woman, aged about 50, had been found in a state of insensibility, which was supposed to arise from inanition. She died so soon after being seen by the medical attendant, that the remedies ordered had not time to operate.

The arachnoid membrane was elevated by a watery fluid deposited between it and the pia mater; the veins of the latter were exceedingly distended with blood; and the whole superior convoluted surface of the hemispheres was occupied with the same fluid. The ventricles contained about 1 1-2 oz. of watery fluid; the choroid plexus presented several globular hydatiform bodies; and the capacity of all the cavities was much enlarged. Several particles of osseous matter were found along the arch of the aorta; the semilunar valves were thicker and firmer than natural; the left auriculoventricular opening was very much narrowed; and the mitral valve was ossified very nearly half way round. The stomach and intestines were filled with fluid, but very little solid aliment was found.

To these I might add a fourth very well marked case, related by Dr. Heberden in the 5th volume of the Transactions of the London College of Physicians. It is there considered as a case of water in the head, unattended by the usual symptoms; that is, that no very obvious phenomena during life indicated any effusion into the cerebral cavities; yet this, with the hyda-

tiform state of the plexus, was found in considerable quantity after death. But the characteristic circumstance to which I wish to direct the attention of my readers is, that the heart was the seat of considerable organic disease. "The valves of the left auriculo-ventricular opening were partially ossified; those of the aorta completely so; and small depositions of bony matter were found on the tendinous portions of the columnæ carneæ. The coronary artery was ossified through its whole extent; the aorta, soon after emerging from the ventricle, formed a true aneurismal pouch." No one, I think, who studies the case of Dr. Heberden, in reference to those which I have related, will venture to assert that it was a true case of hydrocephalus, or that the effusion was not the effect of the disordered state of the circulation. It would be exceedingly easy to multiply examples of this coincidence of morbid structure and action; and I might adduce the instance of Malpighi, who was himself the subject of this twofold disease; but instead of fatiguing the attention by tedious details, I shall conclude with the following remarks.

1*st*, It is quite obvious, that several maladies of the heart, such as ossification of the left side, or of the artery connected with it; ossification of the mitral valve; of the semilunar valves; arctation of the apertures, either auriculo-ventricular, or aortic, have a tendency to terminate in extravasation within the cranium, producing apoplexy, paralysis, or a comatose state terminating in death.

2*d*, It is equally obvious, that although examples of disease of the head, affection of the brain and its membranes, occur spontaneously, yet not a few are the result of a disturbed or irregular state of the circulation, induced by disease of the heart or its appendages. This connexion has not been examined so often as it merited; and there is strong reason to believe, that, if made the subject of particular investigation, it would be proved to be much more constant and uniform than has been anticipated.

3*d*, It is by no means difficult to see how these effects in the cerebral organ result from an irregular and disordered action of the heart. The difficulty which the blood experiences in passing either, 1*st*, through the auriculo-ventricular opening. 2*d*, the aortic orifice; 3*d*, along the aorta, necessarily produces a stagnation and congestion; 1*st*, in the pulmonary veins; 2*d*, in the pulmonary artery; 3*d*, in the right side of the heart. The effect of this is to retard or impede very remarkably the return of the blood from the cerebral veins, and consecutively either to distend them, or, unless they are exceedingly strong

and resisting, to rupture them, or to occasion an effusion of the serous part of the blood, as we find in other examples of obstructed venous circulation.

Some authors have noticed the connexion between morbid conditions of the brain, and morbid conditions of the liver. My personal opportunities do not enable me to add any thing to what is already on record; and it is unnecessary to transcribe here what may be found elsewhere.

III.

*Apoplexy.** By M. Rochoux, D. M.

(From the Quarterly Journal of Foreign Medicine and Surgery.)

We are yet to learn whether APOPLEXY is the result of compression of some part of the brain; or whether effusions, and other causes of pressure, are merely the effects of pre-existing disease. Cases which, at least, strictly resembled apoplexy are recorded, in which no cause capable of producing compression was detected; and others are to be met with, where, without the symptoms of apoplexy, effusions, tumours, and other supposed causes of compression were found to exist. It may be observed, that, with the exception of hemorrhage, the causes of compression are seldom of a nature to warrant us in concluding that they take place suddenly. To ascertain the precise share which compression might have in causing apoplexy, M. Serres instituted experiments upon the lower animals, the result of which shews clearly, that, at least in them, apoplexy could not be produced from compression alone. (*Quart. Journ.* vol. iii. p. 271.) But these experiments having been made on animals in which the brain was previously in a perfectly sound state, we are scarcely warranted to extend the conclusions drawn from them to apoplexy in man; in whom there are strong reasons for believing that an unsound state of the brain precedes the accession of the apoplectic fit. An examination of the effects of compression from external causes, we think, may satisfy any one that something besides the mere compression is requisite to produce all the phenomena of spontaneous effusion of blood into the substance of the brain.

A slight investigation of the various causes which, from time to time, have been supposed capable of producing a stroke of apoplexy, shews clearly that most of these have no foundation in truth; or at least that their effects have been greatly over-

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* Dictionnaire de Medecine, tome ii. 8vo. Paris, 1822.

rated. Tumours in the brain are of slow growth; the softening of its substance (*ramollissement du cerveau*), abscesses, and effusions of serum can only be considered as the slow and gradual results of inflammatory action; even extravasation of blood must be preceded by diminished power of resistance on the part of the vessels, or by a greatly increased force of the circulation in the head. It is true, we are told, that apoplexy is seldom preceded by premonitory symptoms; and on this head M. Rochoux says, that of sixty-three patients, whose histories he received, only nine exhibited precursory symptoms; and of these four were habitually subject to vertigo, which was not sensibly augmented immediately before the paroxysm. If we are to admit the whole of the preceding causes, we should expect that premonitory symptoms ought seldom to be absent. In a disease whose invasion is so sudden, the cause should also be sudden in its existence; or at least from being so slight as to give rise to no marked symptoms, to undergo a change capable of inducing the severe and instantaneous symptoms of apoplexy.

Upon this subject, the earlier writers, ignorant of anatomy, and the changes in structure which disease occasions, have advanced little except wild theory and crude conjecture. When anatomy began to be studied, new lights, it is true, were let in upon pathology, but the earlier anatomists were credulous in the extreme, often admitting as causes, many facts, which can be considered merely in the light of symptoms, or at least as exercising no influence whatever in causing apoplexy. Thus disesses of the heart, aorta, and other organs within the chest, and even many affections still more remote, have had an undue share of influence assigned to them in producing a shock of apoplexy. Enlargement of the heart, the *hypertrophie* of French authors, has more especially been considered as a predisposing cause; but even to this M. Rochoux attaches no value whatever; for out of forty-two cases of apoplexy that he inspected with the greatest care, only two had enlargement, or any disease of the heart! We see then that accuracy and truth, though of slow progress, are the sure results of anatomical research: most of these causes, with the endless list of useless and even superstitious remedies which were supposed to act upon them, have one by one been consigned "to the vault of all the Capulets." The division of apoplexies, however, into serous and sanguineous, was still a fruitful source of obscurity and confusion, and of many fatal errors in practice, of which the excellent work of M. Portal furnishes so many striking instances. But M. Rochoux is a decided enemy to this division; he confines the term apoplexy strictly to hemorrhage within the brain; a

view of the subject which he claims the merit of being the first to have announced to the medical world. No one in this country, however, can be ignorant that many years ago Mr. J. Hunter, in his inestimable work on inflammation, and the evidence which he gave in the trial of Captain Donellan, for the murder of Sir Theodosius Broughton, took precisely the same view of the subject; though we are ready to confess that it has for the first time received an elaborate and systematic consideration by M. Rochoux.

To us it is apparent that effusion of serum, considered as a separate and uncombined affection, is not only a very distinct malady from hemorrhage in the brain, both as regards its nature and seat, but that the two can hardly ever manifest the same kind or order of symptoms. Effusion of blood, as a cause of apoplexy, is met with almost uniformly in the substance of the brain itself, where we can hardly suppose effusion of serum to take place—when blood is found in the ventricles, it may usually be traced to some ruptured vessels in the substance of the brain by means of a sinous communication. There could be no faith in diagnosis considered as a science, as is remarked by our author, if causes so totally different in their nature and situation were admitted as capable of producing the same train of symptoms. We cannot help thinking, therefore, that what is called serous apoplexy is really misnamed; and the evil effects of this division, in filling the minds of practitioners with undefined dread of debility, thus arresting their hand from the employment of our chief remedy, bleeding—free and decided bleeding, we believe, are manifest to all. Effusion of serum, says M. Rochoux, is one of the most frequent consequences of apoplexy, and therefore one of the causes which most frequently renders it fatal. The number of individuals who die of this effusion nearly equals the number of those who perish through the immediate consequences of the hemorrhage. It is difficult to perceive how the one affection so often produces the other, though not more difficult than to discover why an organic affection of the heart, for instance, or larger blood-vessels, should produce hydrothorax. It is enough for us to know that apoplexy has great influence in producing serous effusions into the ventricles.

Effusion of serum then into the ventricles is to be considered as quite inadequate to produce the sudden and total abolition of sense and motion, characterizing apoplexy. Besides this concomitant or subsequent effusion of serum, tumours, abscesses, softening, sometimes with, sometimes without, extravasation of blood are discovered—nay patients have died with all the symp-

toms of apoplexy, without exhibiting, on inspection, the slightest trace of morbid change. Are we to attribute the death to compression, in such cases, especially with the result of M. Serres experiments in view, shewing, in certain states of the brain, how little efficient compression actually is in giving rise to the symptoms of apoplexy? Are we to consider with Mr. J. Hunter the hemorrhage capable of producing all the symptoms of apoplexy; or are we to suppose with M. Serres this hemorrhage to be merely an effect? We presume to think that the reasoning of Mr. Abernethy in many diseases applies strictly to apoplexy—the life of the part must have been originally affected, and we name the disease from its most prominent phenomena. But M. Rochoux believes that a morbid change of the brain, recognisable by the senses, at least, very frequently precedes the hemorrhage; and this change most frequently consists in a softening of a portion of the cerebral substance. That precursory somptoms should not attend this affection, is not more wonderful than that tubercles of the lungs should often make great ravages, without disturbing the health or deranging materially any of the functions of the body. But of this *ramollisement* we shall speak more at length, when we take up the morbid changes of structure which accompany or are produced by hemorrhage into the brain.

Is there really then disease existing antecedent to effusion of blood in apoplexy? Is the hemorrhage merely an effect to be ranked with the other phenomena, effusion of serum, stertor, loss of sense and motion, &c.? We confess, notwithstanding the authority of M. Rochoux, we should hesitate to answer this question either way; and yet do we not know, that in a state of health the blood vessels are capable of resisting all the force which their own action, and that of the heart united, can bring to bear upon them? Many causes capable of producing increased determination of the blood to the head, such as mental affections, pregnancy, epilepsy, and strong impressions of cold, are said to bring on apoplexy; and yet when we attend to the prolonged efforts which jugglers and others make upon their heads, and how some people will allow an anvil to be placed upon their chest, or upon the region of the stomach, and allow it to be struck upon by hammers, and all this without producing any rupture of the blood vessels in the brain, we shall hesitate before we allow that causes which simply increase the blood's motion towards the head, can produce apoplexy without some previous morbid change in the brain itself. M. Rochoux mentions the case of an inhabitant of Gaudaloupe, who died apparently apoplectic during the act of coitus, whom he inspected,

and found an effusion of blood on the surface of the brain, but the brain itself was perfectly sound. If it be true what M. Rochoux says, that such causes precede apoplexy, in not more than a fifth of the cases which occur, we have still stronger reason to believe that there is pre-existing disease, in which case the hemorrhage in all probability would have occurred sooner or later of itself. On the other hand, if we attend to the structure of the brain itself, a soft pulpy substance affording but little support to the coats of the blood vessels ; a structure in short where it is conceivable that suddenly increased action, if in any part of the body, might tear the sides of the blood vessels or escape by the mouths of exhalants, opening in soft and yielding substance : if we attend to these facts, we shall at least be ready to grant that great facilities are afforded for hemorrhage taking place here, without the necessity of supposing that disease has rendered the vessels incapable of healthy resistance. The facts too of people dying of complaints not differing apparently from apoplexy, in whom no change of structure was detected, lessens the necessity for supposing a change of structure in the brain necessary for the production of the disease, and the total want of premonitory symptoms in so many cases; the occurrence in short of the disease in people in the enjoyment of the best health, notwithstanding the able reasoning of M. Rochoux, is not easily explained, upon the supposition that previous nervous, or any other nameless disorder existed. But upon these interesting points it is rather our wish to excite enquiry than to pronounce decisions, which, every one will be ready to admit, the facts on either side hardly authorise us to draw. If we attend to the fact, that precursory symptoms may in many cases have been overlooked, from the inability of the patient in severe cases to answer as to the point; and if we suppose farther, that in other cases they may have been so slight as hardly to attract the notice of the patient or his friends, so little proportionate, in short, in point of severity, to the sudden and overpowering symptoms of the accession, as to be forgotten or disregarded, one cause of the obscurity regarding the existence of previous disorder would be removed. Another source of want of precision on this subject arises from the unskilful and slovenly mode in which the brain is but too often inspected. May not morbid changes have been overlooked, or not properly appreciated, in many cases of apoplexy, in which it is roundly asserted that no morbid appearance could be detected? Such cases are but few, and not many of them recorded by men upon whose accuracy and judgment we can implicitly rely. M. Rochoux is of opinion that hemorrhage in the brain is necessary to produce all the symptoms

of apoplexy; and Mr. John Hunter tells us he never inspected a case of apoplexy or hemiplegia, except one, in which he did not meet with extravasations of blood, and that one died of a gouty affection *resembling* apoplexy. When tumours and abscesses are found, on inspecting apoplectic patients, it is clear that they are to be regarded merely in the light of predisposing causes. If the disorder is purely nervous in the first instance, some affection of the vitality of the part, it is conceivable that serum may be effused in some cases, and blood in others, or that they may be complicated; and it is still farther conceivable, that effusion of serum will more readily take place in debilitated subjects, effusion of blood in the robust. According to M. Rochoux, however, we are to consider these as constituting different diseases. He warns us also from supposing that slight causes can produce a true apoplexy; many having gone the length of attributing apoplexy to diseases within the abdomen, often exceedingly slight; and in this spirit, we find Weitbrectus, after having discovered three ounces of effused blood in the brain, and three or four small calculi in the gall bladder, seriously putting the question if these calculi could have caused the hemorrhage; and after having satisfied himself of the connection of these as cause and effect, affectedly declining to trace the connection very minutely!

The most prominent symptoms, and those most invariably present in a shock of apoplexy, may all be referred to obliteration, more or less complete, of the powers of sense and motion. The affection of the senses may vary from the slightest dulness, to the most profound stupor. The paralysis, or loss of the power of motion, is not less variable in extent and degree, sometimes affecting only one organ, at others abolishing totally all power of voluntary motion. These two affections, M. Rochoux supposes to be characteristic of the sanguineous apoplexy, though we should suppose that they cannot be considered as being perfectly diagnostic, as there can be no doubt that they occur from numerous other cerebral affections besides hemorrhage.

The pulse is exceedingly variable, being sometimes strong, full and hard, from which we have to fear a continuation or return of the hemorrhage; in others it is small and feeble, indicating want of powers in the constitution to recover itself; but in most cases the pulse undergoes no material change. The state of the respiration has by many been conceived to be diagnostic of apoplexy; but M. Rochoux says it is quite as variable as the pulse, being, like it, often unaffected, though it is generally stertorous; but the degree of stertor is far from indicating

either the severity of the complaint or the strength of the patient. Stertor too is often present in other morbid affections of the brain besides apoplexy.

The appearance and colour of the countenance were supposed at one time to be quite characteristic of serous and sanguineous apoplexy, but the whole profession now knows how little trust is to be reposed on these appearances. The countenance may be pale, or it may be red, pale green, yellow, livid, or of a deep violet; or it may be bloated, or the reverse. Independant of these, there is always a remarkable expression of stupor: and it is chiefly from an examination of the countenance that we ascertain the degree of this symptom. If the sphincter muscles of the bladder and rectum are paralysed, Sennert says that the prognosis is exceedingly bad. In severe cases the urine is always passed involuntarily. The mobility of the iris is almost always lost, except in very mild cases, in which the patients continue to see and to hear, but with some degree of confusion. According to Rochoux the pupil is as frequently found contracted as dilated, an observation which has been made by Dr. Cooke. When convulsions are present, Morgagni says, that they usually affect the side which is not paralysed.

To all these symptoms, except the loss of the powers of sense and motion, our author attaches no diagnostic importance; but these last, he says, are in a greater or less degree invariable consequences of rupture of a blood vessel in the brain. This statement is in contradiction to the experiments made upon animals by Serres; and still more of many recorded cases of extravasation of blood being found in the brain, without having produced these symptoms. In some cases the disturbance of the senses is slight, yet the subsequent paralysis, and more certainly inspection, when such cases have terminated fatally, proved that extravasation of blood existed. The disturbance of the intellectual powers is generally deep and prolonged. In those cases in which happily it is but slight, the patient nevertheless preserves an air of confusion and trouble, which wears off very slowly, unlike many other cases of much deeper affection of the intellectual faculties, without apoplexy, in which the patients recover the perfect use of their senses in a few hours, often in an instant. M. Rochoux considers this to be a point of great practical importance.

Valsalva first directed the attention of practitioners, particularly to paralysis, as a symptom of apoplexy. Rochoux has seen only one case in which one eye was affected; sometimes however, both are affected; also the larynx, tongue, œsophagus, an arm, a leg, a whole half of the body; and in some desperate at-

tacks, all the limbs together have suffered. When the layrnx is affected, it it seldom that the patient ever recovers the use of voice: hurried and defective articulation is a common symptom, arising from paralysis of the whole, or of the half of the tongue. It is rarely that a single limb is paralysed; most frequently the leg and arm of the same side are affected, which, when the half of the face is also paralysed, forms hemiplegia, which sometimes is attended with an affection of the respiration, called *fumer la pipe;* the air, at each respiration, inflating the cheek, and being returned from the mouth, with the noise and in the mode which smokers sometimes employ. This symptom is regarded by many practitioners as an exceedingly fatal one. It is seldom that the leg is effected to the same degree with the arm; and its lost power is usually soonest restored. These paralytic symptoms, with perhaps the exception of that of the eyes, take place on the side of the body opposite to the one where the compression exists; and yet Lancisi and Morgagni, both adduce cases of paralysis occurring on the same side with the effusion, though Rochoux supposes either that these were not true cases of hemorrhage, or that some mistake had taken place either in observing or recording them.

But though paralysis is a very certain symptom of apoplexy, it is only when its accession is sudden and its duration protracted, that we can implicitly calculate upon it as a diagnostic symptom of hemorrhage. Without paralysis, however, M. Rochoux says, there can have been no effusion of blood into the brain. Paralysis may take place from other causes, though its approach is then generally slow; but hemorrhage, according to M. Rochoux, cannot exist without producing paralysis as a symptom. The lesion upon which the hemorrhage depends, not being of a nature to be speedily repaired, we cannot hope for an early cure of the paralytic symptoms; and indeed, there are few instances of cure before two or three months. When complete resolution of all the members of the body has taken place, the same light is not thrown upon the nature of the disease as when the affection is more partial; because this general paralysis often arises from other severe comatose affections, besides hemorrhage: and because, in such cases, we cannot assure ourselves, that this complete loss of voluntary motion is not owing to some general collapse. This incertitude is increased, if the limbs present a tetanic rigidity, which sometimes, though rarely, accompanies their immobility in apoplexy. One might suppose, that when the paralysis is so universal, that they ought to meet with effusion in both sides of the brain; yet inspection proves that this is seldom the case, although the quantity of blood effu-

sed is always considerably greater. Apoplexy then, like many other diseases, is not so easily recognised when it is intense as when it is moderate.

Besides the hemorrhage, there is always engorgement of blood in the vessels and sinuses of the dura mater and pia mater, especially upon the side which is the seat of the effusion, and also of the vessels which penetrate into the substance of the brain. There is besides engorgement of the vessels of the scalp, neck, and breast, often real echymosis, the traces of which may even be met with in patients who have survived the attack fifteen or twenty days, shewing evidently that there has been determination of blood to the whole head; and that this determination is not limited to the period of the attack merely, but continues for an indefinite period—a circumstance to be attended to in practice. The appearance of the effused blood is different, according to the duration of the disease. If death has supervened early, at the end of three days for example, it is black and in soft clots; but in proportion as death has been more distant, the effused blood acquires more consistency, and loses partly its black colour. If, in consequence of stimulating treatment, or of determination of blood to the head, there is a renewal of the hemorrhage, the blood first effused is found of sufficient consistency, surrounded by beds of the more recently effused blood, in a soft or semi-fluid state.

At the end of a month or six weeks the blood acquires still greater consistency, resembling that which is found in aneurisms. At a period still more remote from the attack, it is found still more solid, and of a pale red colour approaching to yellow. In fine, it becomes entirely absorbed. Its quantity, in recent effusions, varies from a drachm or two; to four or six ounces—rarely more or less; and the severity of the symptoms almost constantly corresponds to the quantity of blood effused. A slight extravasation will occasion confusion of the senses only, without loss of consciousness; or it may produce blindness, palsy of the tongue, or lasting debility of one side of the body; in more considerable quantity it will occasion complete loss of sense with hemiplegia; and when still greater, the powers of sense and motion are completely abolished, and a speedy death usually ensues.

This effused blood is rarely met with except in the substance of the brain, where it is contained in cavities, which Wepfer and Morgagni have compared to aneurismal sacs, and these cavities not unusually communicate with the ventricles, or open by a rent upon the exterior of the brain. The walls of these cavities are very soft, strongly coloured red by the blood, of

of the thickness of a line or two, unequal, rough, and as if torn on their internal surfaces, and presenting many floating filaments when shaken in water. They are surrounded by a layer of cerebral substance of the thickness of two or three lines, of a pale yellow colour, soft, scarcely of more consistency than cream, and hardly misceable with water. The colour and softness of this cerebral layer diminish as it recedes from the apoplectic cavity, rendering it difficult often to determine the spot where the brain resumes its healthy appearances, and the morbid changes begin. Sometimes there is found, between the walls of the cavity and this external layer, another layer of a deeper yellow tint, also exceedingly soft, from two to four lines in thickness, and thickly beset with small bloody effusions not larger than pins' heads. If the blood has made its way to the surface of the brain externally, or to any point of the ventricles, it is usually mixed with portions of this yellow softened substance, which being retained by no obstacle, the blood carries along with it when effused. That side of the clots too, which lies upon the rent is mixed with portions of this softened substance. In these cases there is always a true loss of substance—a kind of erasion surrounded by a slight yellowish layer, which is soft and seldom thicker than the fourth of a line. This alteration of structure was first described by M. Rochoux, in 1814. He is at a loss to decide whether it takes from the abode of the blood in the cavity, or precedes the hemorrhage, though he is inclined to the latter opinion; but to avoid all cause of discussion he calls this alteration of structure *concomitant softening* of the brain.

Such are the lesions of the brain in recent apoplexy; but they undergo afterwards very remarkable changes. The blood is after a time absorbed; the walls of the cavities cicatrize in some degree, or are slightly united by means of cellular and vascular bands which are circularly arranged, and between which is contained an ichorous liquid, reddish, more or less abundant, sometimes thick, yellowish, or gelatinous. These adhering walls are denser than the rest of the brain, of the thickness of a line or two, of a yellow or reddish tint, or sometimes of a rusty or deep brown colour. Sometimes they simply approach without being united by cellular or vascular adhesions, forming empty cavities. In one case dissected by M. Rochoux, the internal surface was as smooth as that of the ventricles, and moistened by a serous fluid. These cavities are constantly met with in apoplexy and the paralysis which succeeds to it, at whatever period of the disorder the patients may

die, their number always corresponding to the number of attacks which the patient may have suffered.

Morgagni believed that hemorrhage of the brain occurred more frequently in the corpora striata and optic bed, than in all the other parts of the brain together. M. Rochoux gives us tabular views of forty-one cases, of which twenty-eight occured in these situations. Hemorrhage appears to occur in both sides of the brain indifferently, although Morgagni has laboured to prove that the right side is more subject to it than the left.

The symptoms during life enable us to guess no nearer at the seat of the disorder than the side of the brain in which it may have taken place. Yet M. Serres, in a late publication, gives an account of cases of apoplexy in the cerebellum, which leads us to believe that apoplexy here is accompanied by an excited state of the genital organs. The facts however are as yet too scanty to enable us to draw any decided inference. M. Serres also believes that he can assign the part of the brain affected, which more particularly induces paralysis of the heart, lungs, and commencement of the intestinal canal. Such knowledge, even if attained, it is manifest, can be of little use to us in the treatment of the disease.

The most frequent complications with hemorrhage are softening of a portion of the cerebral substance, and effusion of serum, and one or other, or both of these affections may precede the effusion of blood, may be concomitant with it, or be found as its sequelæ. It appears that, by the French authors, this softening is attributed to slow chronic inflammation, and, if permitted to go on, ends in converting the affected portion of the brain into true pus. It is always found to exist along with an injected state of the vessels of the whole brain, less apparent in the tunics, and remote from the softened portion. This injected state of the vessels may be present in every possible degree, and when producing great distension of the vessels is apt to end in extravasation of blood. But if sudden and concentrated congestion takes place in the brain a real apoplexy is produced, and the effused blood, tending to keep up an inflammatory state of the organ, is apt to produce what M. Rochoux calls consecutive softening of a portion of the brain. It is obvious that there is a strong analogy between this softening and hemorrhage—that they are liable to be brought on by the same causes, mutually to produce each other, to give rise to the same symptoms, and to terminate in the same changes of structure. By this view a strong connection is made out between inflammation of every kind within the skull, and extravasation of blood into the substance of the brain. As primi-

tive and uncombined disorders, effusion of serum and softening, M. Rochoux says, may be readily distinguished from apoplexy; but when the diseases are in any way complicated together, the diagnosis becomes exceedingly uncertain. Considered as sequelæ of apoplexy, they do not render that disease more difficult of being distinguished; but to say which of the two it is, or whether there is only one or both occurring as sequelæ, we have no means of ascertaining. Effusion of serum, however, occurs in the great majority of cases, and is frequently free from complication with softening.

The softening, as an original complaint, manifests itself by a slow and comparatively gentle accession of its symptoms. It is apt, however, of a sudden to assume all the symptoms of apoplexy. More frequently the paralysis which it occasions, besides being slower in its approach, is accompanied by rigidity of the members, the muscles of the face are often spasmodically affected, the tongue is drawn towards the palsied side; but one chief means of distinguishing it from apoplexy, according to Rochoux, must be by an attentive consideration of the precursory symptoms. The mere existence of precursory symptoms is in some degree, diagnostic of the presence of this morbid softening. In proportion as all these affections of the brain are more severe, the less are we able, from the symptoms, to distinguish one from another.

Exhalation of blood into the ventricles is described by Morgagni and Baglivi, as very much resembling the true apoplexy, being sudden in its attack, and rapid in its progress; the chief symptoms being paralysis and loss of sense. In the same way apoplexy may be simulated by strong effusions into the cavity of the arachnoid externally. Exhalation of blood into the ventricles, M. Rochoux describes as resembling acute hydrocephalus, with the exception of the fever, which is not present; and the hemorrhage from vascular rupture of the arachnoid coat externally, is rapid in its progress, and bearing a strong analogy to hemorrhage in the interior of the cerebellum, or tuber annulare. It appears to us that much of what M. Rochoux advances, with a view to establish a diagnosis between many affections of the brain, is of very little utility, and leaves the subject much in the same state in which it was found. Thus, he says, that exhalation of the blood into the ventricles is not to be distinguished from hemorrhage into the cerebellum or tuber annulare; but that hemorrhage into the substance of the brain, when not *excessive*, may he distinguished from either. We doubt if these and many other distinctions, which he attempts to establish, can be made out during the life of the pa-

tient; and we are pretty certain that though they could, they are of no consequence whatever but to amuse speculatists in their closets.

With regard to the influence of age and temperament as predisposing causes of apoplexy, M. Rochoux has been at the trouble to make out tabular views of sixty-three cases, illustrative of these circumstances. Judging from these, it appears that from the age of twenty till sixty, the predisposition rapidly increases; that it is greatest from sixty to seventy, gradually diminishing beyond that age. There are few cases of hemorrhage in the brain in children: Rochoux knows of no well authenticated case, except one which is recorded by Serres; but even with regard to this case, M. Serres does not say whether it was not the complaint which he calls meningeal apoplexy, and others arachnitis. Temperament and seasons, according to our author, exercise very little influence in causing apoplexy; though he is not disposed to deny altogether the authority of Hollerius and Baglivi with regard to the influence of particular seasons. M. Rochoux believes that there is no external sign, appreciable by the senses, which indicates a disposition to apoplexy; and he refers to the observation of M. Corvisart, to shew that individuals, of what are called the apoplectic make and temperament, are equally disposed to diseases of the heart. To hereditary disposition, our author is disposed to allow some share of influence, though he, at the same time, argues that this produces no particular form or temperament by which we can judge of the hereditary disposition.

Many authors have recommended the most absurd treatment in this complaint. Cœlius, for instance, says, that after having bled the patient till he has slightly recovered, he is to be placed on his back in bed, and there *jolted about;* and we are gravely advised to intermit the jolting occasionally, to allow the patient to recover from the fatigue it may have occasioned him. This plan is more lately advised by Hollerius and Jacquinus; but Forestus recommends substituting in its stead ligatures round the limbs. Sennert advised a remedy, if possible still more ridiculous, namely, that of holding a red hot iron so near the head as to warm but not to burn it. Ætius, however, thought it right to apply the iron and produce an eschar. Many other absurd, and even hurtful remedies have been employed, or at least recommended, most of which were of a stimulating nature; but few medical people, we believe, require now to be told that stimulants cannot fail to be injurious; and as to the practice recommended by some learned doctor of Germany, not very long ago, of trepanning the skull to get at the effused fluids, we

presume to think he must be a rash surgeon indeed, who has the temerity to attempt any such fruitless operation. Emanuel Kœnig boasts of the surprising efficacy of a piece of executed criminal's bone, worn upon the paralytic limbs; which, however, is perhaps exceeded in absurdity by Nynams's remedy for palsy of the tongue, namely, three drops of blood drawn from the ear of a miller's ass, and given in a decoction of lentils!

M. Rochoux, we think very justly, criticises the mode of treatment which at present prevails in France. One, two, but never more than three small bleedings made at the foot, arm, or jugular, and leeches to the head or feet, are the first steps of the treatment. On the second day, an emetic or purgative is prescribed, and blisters are applied to the legs, thighs, and neck; afterwards stimulating and antispasmodic potions are prescribed, and occasional enemata to excite the action of the bowels. After some months, a course of mineral waters is recommended, and the paralytic limbs are treated with irritating liniments, electricity, and pumping water upon them.

If we attend to the injury which the brain has received, says M. Rochoux, and to the marked tendency to a continuation or recurrence of the hemorrhage, we shall see that many parts of the treatment commonly adopted are bad; and that our first indication ought to be to subdue the hemorrhage, the second to destroy the effort which tends to reproduce it, and the third to facilitate the absorption of the effused blood. If M. Rochoux were not so afraid of one decided and free bleeding at the outset, and of purgative remedies, his directions otherwise do not differ materially from those of M. J. Hunter. We think, that, for emptying the vessels of the head, bleeding from the temporal artery, as recommended by Mr. Hunter, must possess a decided advantage over every other mode, in the estimation of any one who for a moment considers the distribution of the external carotid; and next to this, bleeding from the jugular vein. The injury which the brain has sustained from rupture of its vessels and laceration of its substance, must, on the recurrence of reaction, have a strong tendency to produce violent inflammation; and accordingly Rochoux remarks that the blood of the second, and still more that of the third bleeding presents the inflammatory coat. The patient ought always to be placed in a position with the head raised: we are apt to neglect this, on the supposition that the living body is little subject to the laws of physics. Having bled, according to Mr. Hunter, till the patient shews signs of recovery, we are to continue the flow of blood till he becomes faint; we are to give saline purgatives freely, to diminish impetus and promote absorption, we are to enjoin ab-

solute rest, low diet; and to advise the patient to avoid coughing or sneezing; and never at any time are we to attempt to rouse, by stimulant treatment, the torpid members to action. Emetics, so freely used by many French practitioners, receive the unqualified reprobation of M. Rochoux; and indeed it is most unreasonable to subject to the violent action of vomiting, a man who has received a laceration of his brain. Speaking of the use of stimulants, Mr. Hunter says, we might with "equal propriety stimulate the fingers when their muscles were torn to pieces." A second hemorrhage, is often, says Rochoux, produced about the tenth or eleventh day, by the then more free employment of stimulants. In vain, he adds, do we stimulate; in vain do we tear the paralytic members; while the cause which deprived them of their nervous power remains, it is impossible their motions can be restored. In short M. Rochoux recommends a strict antiphlogistic treatment; he has hardly any faith whatever in stimulants at any period of the disorder, but he strongly recommends those who will use them, to defer their use to a very late period of the complaint.

Many drugs, chiefly aromatics and stimulants, have been absurdly supposed to act as preventatives against apoplexy; and Camearius recommends an amulet of coral to be worn; and adds, "long experience has convinced me of the efficacy of mace chewed fasting, twice a week, with a little argaric, in preventing apoplexy!" M. Portal even gives a long list of remedies, which he says he has seen do much good in this way; but it is clear that in whichever way these remedies might act, they could not possibly have any such effect upon the patient. We think we cannot do better than conclude by quoting the opinions of Abernethy. "We should pay attention, that the stomach digest thoroughly all the food that is put in it, that the residue be daily evacuated, that exercise should be taken in the open air short of fatigue; for without these we seek in vain for cures, or even preservation among medicines, and we but deceive ourselves by trusting to them."

IV.

Law Medicine, as it relates to Midwifery. By J. Capuron, M. D. *Professor of Midwifery, &c. &c.*

(From the London Medical Repository.)

The criminal means of perpetrating the murder of infants, have been generally resolved into two kinds, viz. by omitting

the necessary services required in behalf of the infant, and by inflicting violence. This division is observed by M. Capuron.

The modifications of infanticide by omission are four:—1. Exposure—either to cold in a state of nudity, or to much heat. In either case, the detection of the murder depends greatly upon the establishment of the fact that the child has respired—of which we shall speak presently. 2. Withholding proper nourishment. The fact of the infant having respired—the vacuity of the stomach and intestines—general marks of inanition, and no signs of violence about the body, are to be taken into particular consideration here. 3. When the child is voluntarily allowed to remain under the clothes of the mother, exposed to all the accidents that may arise from the maternal evacutions. 4. Omitting the ligature of the umbilical cord. Authors have been at variance as to the importance of this operation. While some argue that it is indispensably necessary, others maintain that it may in all cases be omitted without danger; while a few have been even unfavourable to its performance; and others consider that it may be neglected without bad effects in some cases, and that the omission is not necessarily the cause of death. M. Capuron gives the arguments pro and con. The premature ligature of the cord, while the blood still circulates through it, and before there is evidence of its assumption of the new and independent course it should follow, through the lungs of the child, is certainly hazardous; but what practitioner would sanction the practice of omitting the ligature altogether? We maintain its necessity to be fully established, because instances enough could be brought forward where children have bled to death through that channel. The question, however, as to the state of the umbilical cord in a case of alleged infanticide, is one not only of importance, but difficulty. Let our author speak his own sentiments on the subject—

"The mere omission of the ligature of the umbilical cord, independently of every other cause, appears inadequate ever to occasion the death of the new-born infant. One of two things must happen, there is respiration after birth either free, or under constraint, or it is altogether suspended. In the first case, the circulation no longer going on in the child as it did when it was yet in the uterus, all the blood which before birth returned to the placenta, passes through the lungs, and does not escape by the umbilical arteries. In the second instance, when respiration is suspended, it is the same as if the child were dead---it is apparently so---circulation is arrested, and hæmorrhage not to be apprehended. In this instance, omission of the ligature may be less dangerous than its application."

Our attention is now claimed by the violent or criminal causes of infanticide. These are—1. Wounds in general, whether extensive or small, as when made by a sharp-pointed instrument, in the way already alluded to. 2. Separation of the head from the body, or of the body into two portions, by means of cutting instruments. 3. Fracture, or dislocation, as of the cervical vertebræ. 4. "Torrefaction," or burning the infant; and, 5. by *asphyxia*, by which we are to understand suffocation. This last we consider as the great cause of death in such cases; and it may be applied in a variety of criminal ways. Our author here enumerates burying the child alive—shutting it up in a box deprived of air—smothering it between mattrasses—choking, by filling the mouth with cloths, mud, &c.—plunging the whole body or the head merely in water—strongly compressing the thorax—strangling by the hands or a cord—exposure to deleterious gases (or vapours of burning sulphur)—casting it into a privy. To these, other modifications might be added; but enough is said to illustrate the principle to which they are all alike referrible.

Our attention is also to be directed to the circumstances of colour, and state of the vascular system—if it is entirely void of blood, the infant must have died of hæmorrhage; if the arteries only are empty, some other cause has produced death. In examining marks of violence on the body, all their characteristics are to be noticed—as number, depth, extent, figure, situation, colour, &c. This latter is of considerable consequence.

Particular attention is required to ecchymoses about the neck, on the principle that they may exhibit the imprint of the substance by which pressure may have been made there. This is a point of much importance in forensic medicine, and has frequently been urged as evidence of strangulation, where the murder of adults has been the point at issue, as well as of infants. Thus the marks of fingers, of cords, &c. have been distinctly traced. But as strangulation must be supposed practicable by constriction of the os uteri on the neck of the infant, or by a turn of the umbilical cord, it must be of great importance to distinguish between the marks left by these, and such as indicate the application of a string, riband, &c. Much stress has been laid upon the uniformity of the ecchymosis, or discoloration, without abrasion of the cuticle, in the former cases; and upon the irregularity of the mark and the abrasion in the latter. This is the general rule of discrimination; and a Practitioner of ordinary penetration will not require nice instructions as to the variety of modifications that may occur—or if

these should be required, he may consult page 374 et seq. of the work before us.

The importance of tumours is likewise very properly insisted on, as these cannot be produced in a dead body. Those about the head are to be carefully considered, in order to distinguish between the consequences of labour and unnatural violence. Wounds and punctures must be searched for, and if there are any, their course must be carefully traced. Recollecting the various ways in which suffocation is practicable, the propriety of examining the cavities of the nose and fauces will at once appear. Our author alludes to the possibility of pinching the epiglottis, and doubling back the tongue upon that organ.* Fractures and luxations demand inspection, as to the possibility of their having been produced by uterine action, or attempts to expedite delivery.

Having thus cleared the way, by taking a review of all the methods whereby a new-born infant may perish, our author is led to the fundamental query, whether the child was really born alive. A decision to the contrary must necessarily stop the process *in limine;* and it savours of ridicule to add, that if the child did not come into the world alive, it could not be killed after it was born.

As far as we have hitherto gone, there may be little comparative difficulty; for some of the injuries alluded to will show themselves to have been inflicted during life; and the whole of the matter for consideration will resolve itself into ascertaining in what manner they may have been inflicted. We are to suppose, however, that cases will occur where no such sure guides are to be found—where there are either no marks of external violence, or they are of so doubtful a nature that we cannot ascribe them to any sure cause.

"How are we then to decide whether death has been anterior or subsequent to the birth; recent, or of some standing; whether the child has respired or not before death; whether its life has been short or of some duration; whether it has been the victim of an innocent or criminal influence?"

He resolves the first of these questions by taking a review of whatever might contribute to kill the child *in utero*, on the part both of the mother and the infant itself. But as these are matters of common consideration in the *pathology*, if we may so term it, of pregnancy, we shall not follow him through the recapitulation. Indeed, there is here a good deal of repetition.

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* This is a method of suicide which has been long upon record, and is said to be practised by some of the negro slaves in the western hemisphere.

In deciding the question whether respiration has or has not taken place, the lungs have been the principal, and too often the only subject of consideration. While the fœtus remains in the uterus dependent for support on the functions of that system, and deriving the power of supporting circulation from the mother, while it continues, as our author expresses it, *the parasite* of the parent, the lungs are in the same inactive state as any other solid part of the embryo—they receive support, but perform no functions. When this connexion is interrupted by the birth of a living child, and separation from the mother, the system of the infant is thrown upon its own resources, and its own vital functions are called into action. The air passing into the lungs causes great and important changes in them. Previous to respiration they are found contracted towards the upper and posterior portion of the thoracic cavities, exposing the pericardium, of a mahogany colour, solid structure, firm to the touch, and specifically heavier than water, so that if taken out and placed in a vessel of that fluid, they will sink to the bottom, as would the liver or spleen. If, however, they have inhaled air (or if the lungs, as just described, be artificially inflated), their colour changes to a bright red or pink, their volume is enlarged so as to fill their containing cavities and cover the pericardium. Their consistence is tumid and soft; and if they be now placed in a vessel of water, they will float on the surface.

Such is the old hydrostatic proof of infanticide, or rather of the fact that an infant has been born alive or not, applicable to questions of that nature, upon the ground that there is an inseparable connexion between life and respiration.

On many occasions implicit confidence has been reposed in the result of this experiment, however rudely performed, and without any consideration of exceptions, obstacles, influencing circumstances, or knowledge of objections. These, however, came to be seriously and universally entertained. Practitioners, if not convinced, were confused; and of late the examination of all the circumstances that require attention in these cases has become a matter of so much trouble, if not of complexity, that Practitioners have adopted the more convenient plan of condemning the experiment in round terms, as being absurd and exploded. This opinion has been echoed from the bench, and has thus received no small pseudo-authority; so that juries have ceased to convict for child-murder, and of late these trials end (at the worst) with a verdict of guilty of concealment of birth, which involves a year's imprisonment. With this we acknowledge that we have little or nothing to do. But as the opinion, upon which all this rests, is now to undergo our examination,

we cannot avoid protesting against the dicta of our professional brethren—because we are persuaded that they could not speak in this very positive manner if they made their investigations in the way they should be done. Absurd, indeed, it would be to say, from the result of the mere hydrostatic proof, that the child was or was not born alive; because the opinion receives so much more strength, or may, indeed, be discouraged, by taking various other circumstances into account: and we deny that it has been exploded by scientific research inducing conviction of its inutility. In fact, it is a most important article of a mass of proofs to be drawn from a careful examination of the dead body; no one of which ought to be relied on singly, but all of which would signify very little were not this taken into account.*

In order to do full justice to the import of the state of the lungs in clearing up the question now to be considered, we must remember that there is another change effected on them by means of respiration. Those just alluded to, may be artificially produced upon the lungs of a dead body. We may alter their volume, colour, and specific gravity, by blowing into the trachea; but the change to which we now refer can be the consequence of natural respiration alone. While the fœtal lungs were yet strangers to the economy of respiration, but a small quantity of blood found its way to them—no more than was required for the supply of their own substance, through the bronchial artery. But after respiration begins, the whole of the circulating fluid must pass through them, and the ramifications of the pulmonary arteries and veins are much distended and filled with blood. Of course, if death does not take place until this state is induced, we must find a material change in the absolute weight of the lungs before and after respiration; and if all children at or immediately after birth were of or nearly of the same weight, there would be no difficulty in coming to accurate conclusions as to the applicability of this phenomenon to the point at issue. This has been called the static experiment, or the test of Ploucquet, to whom we have been indebted for its discocery within the last forty years.

The fact upon which Ploucquet set out, was that by respiration the absolute weight of the lungs was doubled. He found, that in the case of non-respiration the lungs weighing as one to

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* There is an opinion very prevalent among medical Practitioners, which stands much in the way of their comfortable performance of their duty towards courts of justice. They are apt to imagine, that by not speaking positively, they may cause a person to be hanged unjustly. The risk is precisely the reverse. But it is their duty to give the grounds in every case, why they may not be able to come to a positive conclusion.

seventy, for the whole weight of the body, became, by the changes connected with respiration, as two to seventy, or one to thirty-five. Now, as the whole weight of a child is by no means always the same, as the lungs do not strictly follow the variations in size, fatness, &c. of the body, discrepancies must be looked for—and Ploucquet, being aware of this, dwelt on the necessity of making numerous experiments, in order to establish a scale of weights applicable to infants who had not respired, to those who had, and to various periods of gestation at which they might come into the world, as well as difference in the weight of different bodies. This has never been done in our country, and we should not take upon foreign authority, what we can ascertain for ourselves. We have strong analogies to discountenance such confidence, witness the cases of Cæsarean section, and premature labour, which belong to the class of subjects we are now treating of; and we could adduce others equally applicable. The test of Ploucquet, we insist, should always be made along with the hydrostatic experiment; and though we may not find (to a few drachms, probably) the precise result of either state, that is, of collapse or respiratory dilatation, yet an approach to 1-70, or to 1-35, will either confirm us in our opinion as to the fact of respiration having taken place, or lead us to give an accused person the benefit of our inability to draw a positive conclusion.

Another method of trying the state of the lungs has been proposed by Daniel, and is probably less known than the former. It consists in the displacement of water, on plunging the lungs into a vessel of that fluid. It is a principle in hydrostatics, that a solid body placed in a fluid displaces a quantity equal to its bulk. Now, as lungs in a state of collapse are of smaller dimensions than those that are dilated by respiration, they will displace a smaller bulk of water. It is therefore proposed to apply a graduated scale to the vessel containing the water, by which the quantity displaced can be accurately measured by the rising of the surface. To do this will require some nicety in the operation. Many experiments must be made with lungs taken from subjects in different authenticated states, and in the same vessel, with the same scale adapted to each other. Thus it may be possible to arrive at such a degree of, or approach to accuracy, as to be able to conclude, from merely placing the lungs in the vessel, and marking the change in the graduated scale, whether inflation has taken place. To sink lungs distended by air, a silver thread basket is proposed, whose displacing power is taken into account, in which the lungs in either state

may be placed. But this would still prove dilatation only, and not that by respiration.

The old hydrostatic proof is simply the sinking or swimming of the lungs in water. The fact was known to Galen,* but no application of it was made to any useful purpose till about the year 1660. At first it was considered as conclusive as the sinking or swimming of a suspected witch in a mill-pond, and was long as indiscriminately received in all cases wherein it was resorted to. But, at length, it was discovered to be occasionally inapplicable—probably from some experiments having been made on subjects whose history was accurately known; and in which the results were not according to the supposed law of nature. Thus we find, among the objections urged against the proof, that in children who were known to have died in utero, the lungs were found buoyant, while, in some that had respired, they were found to sink when placed in water. Now, it must be confessed, that however rare these *irregular* phenomena may be, yet if they do occur, they bring very unwelcome cause for considering whether a favourite and easy mode of solving a troublesome problem can with propriety be persevered in. We shall merely remark, that the facility of this investigation became exceedingly troubled by objections and difficulties; so that (as medical Practitioners get nothing by being puzzled with cross questions in a court of justice) the late practice in this country has very generally been to have nothing to do with this "confounded" docimasia—nor to attempt the performance of it, which is very troublesome, rather tedious, and of no profit whatever. Forensic medicine forms no part of professional education in Great Britain. No questions are asked about it at the college; and as for courts of justice, they merely ask for the sake of information, and must put up with what we choose to afford them. The docimasia has been of late, therefore, voted "an absurdity," and declared to be "exploded."†

But in spite of all this, the proof is neither absurd nor exploded; and we will venture to assure such of our brethren as may have adopted this convenient notion, that they will have yet to act in opposition to it; and go through the ceremony of the docimasia, not as heretofore perhaps, but by a tenfold more careful and minute process. Objections have been urged against

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* De Usu Partium.

† Such expressions have been repeatedly made use of as excuses for not having examined the bodies of new-born infants in cases of alleged *infanticide*. Indeed, a newspaper report of assize proceeding last spring makes a learned judge state this opinion to a grand jury as matter of congratulation.

the hydrostatic test, which, in some instances, may be valid; but as to their general application, we hold that they have been fully answered; and that their just importance is established, and intelligible on the part of those whose object is truth, and not convenience.

Having ascertained that the child has respired, M. Capuron considers it a matter of no great difficulty to determine *how long* it has lived after birth; the state of the skin, of the umbilical cord, of the stomach, intestines, and bladder, being all that requires attention—but this point (which is in our estimation merely subordinate) is vaguely stated. "How long," is evidently a term denoting some definite admeasurement of time, and in the case in question, may be supposed to estimate hours, at least, if not days. The whole extent, however, to which we are supposed to carry our opinions, is, whether the child died immediately, or (in other words) in a few minutes after birth, or before the whole of the changes in its economy, consequent to the separation from its uterine dependencies, have taken place. The solution of this question will be easy to the Practitioner, who knows the ordinary state of new-born infants. In ascertaining also, whether an infant is recently dead, or has been dead some time, the general rules of judging in other instances will be applicable here, keeping in mind the peculiarities which belong to a fœtus that has been dead some time in utero. We must, however, follow M. C. in pointing attention to the importance of examining into these circumstances with great care, where the fundamental step in the accusation of a woman, is to reconcile the statute of a fœtal corpse with that of her own person, as referring to signs of delivery. Thus, if a woman be found to have borne a child within a few hours, and one is submitted to our inspection, that has all the marks of having been dead many days, we should hardly venture to conclude that she has borne *that child*, unless it exhibits signs of having died *in utero*. On the other hand should we, on examination of a female accused of concealing the birth of her infant, be unable to discover the indicia of delivery, and a fœtus, that evidently perished *soon* (in the applicable acceptation of the word) after birth, but in a fresh and recent state, be produced, the same conclusion would be the safe, if not always the right one. In such examinations, however, inquiry should he made into the circumstances and situation in which the body has been found, as there are some which hasten the process of putrefaction, and others that retard it.

M. Capuron proceeds to inquire how the manner of the infant's death is to be ascertained, where there are no manifest signs of injury? The only resource here is, to seek for signs of

death, by the omission of those attentions already alluded to. It is for us to find the fact; and for justice to deal with the intent, which the law lays down, as implied in cases of concealment.

He sums up the "dissertation" in a concise and clear manner, which (notwithstanding the length of this article) we shall insert without abridgement.

1. "To establish the commission of infanticide before birth, which is identically abortion, it is requisite to prove the woman to have been pregnant with a living fœtus; to have voluntarily exposed herself to the influence of causes of miscarriage, whether general or local; and these causes to have produced their effect.

2. "To establish the same crime commited during the birth of the child, it must exhibit marks of injury in its body, and these marks must be different from those of the process of parturition, as well as every other arising from natural or spontaneous causes.

3. "To prove infanticide committed after birth, it must first be shown that the child was born alive, well formed, free from disease, mature and viable; consequently that it has fully respired, therefore the death must have been caused by some criminal omission, or some deadly manœuvre.

4. "To prove the life or respiration of the infant after birth, attention must be paid to the anatomical marks found in the breast and abdomen, in the lungs and pulmonary vessels, urinary bladder, umbilical cord, arterial canal, foramen ovale, and venous duct; the lungs must be submitted to the hydrostatic proof, of which the superiority over all others is beyond all question. For this purpose, however, the lungs must not be in an advanced state of putrefaction; there must have been no insufflation, and we must neither *suppose*, *presume*, nor *suspect*, the commencement of respiration before birth, or during its progress.

5. "Neither the hydrostatic test of the lungs, nor any other, can certainly or positively establish the fact of respiration, where this function has been obscurely performed, as in asphyxia, extreme weakness, or apparent death of a new-born infant. Whence it follows that the result of these proofs must be favourable to those suspected or accused of infanticide."

We have now arrived at the third and last part of the work, which comprises instruction as to the manner of examining the fœtus, and forming observations and reports to be laid before tribunals. With the latter, we can have but little to do in this country. Those who possess, or may be induced to purchase the work, will find it of some advantage to look over them; for although our testimony and opinions are generally given and received in the way of question and answer, *viva voce*, yet we must on all occasions of investigation, take notes of the appearances that present themselves; and we may indeed have to ex-

tend our labours in the shape of a written report. For this we have no prescribed forms to observe, those being undoubtedly the best which convey the simplest and clearest statement of the matters concerned. In doing this, however, a man may display talent, or evince ignorance and incapacity; and it is always to be expected of a person of reputed education, that he should display his knowledge in correct and suitable language, as well as in appropriate order.—*Edinburgh Medical and Surgical Journal.*

MONTHLY SUMMARY

OF PRACTICAL MEDICINE.

I. ANATOMY AND PHYSIOLOGY.

Dr. Jacobson *on the Venous System in many Animals.*

Anatomical disquisitions, continued by us for many years, have induced us to investigate a new and hitherto unknown system of veins, which is found in many animals. Our earlier observations we presented to the Philomathic Society of Paris, and those of a more recent date to the Royal Society of Sciences at Copenhagen. Although, for many reasons, we are at present prevented from publishing these observations, elaborated with the diligence we wish, yet we have determined to present the first lines of this venous system to the examination and judgment of the learned.

It is well known that in man, and the other mammiferous animals, all the veins, the *vena portarum* excepted, are so arranged as to form a single and continued system, which conveys the blood returning from all the parts of the body to the heart.

In these animals, the veins which proceed from the inferior or posterior part of the body meet in one common trunk, by which the vena cava inferior is formed, and the blood conveyed straight to the heart.

This arrangement of the venous system, however, obtains in no other vertebral animals; and a new and peculiar system of the veins exists which is not directly united with the other veins of the body. By means of the veins which compose this system, the blood which flows back from the middle or posterior part of the body does not go directly to the vena cava inferior, and af-

wards to the heart, but is conveyed either to the kidneys, or to the kidneys and liver.

This system is observed in birds, reptiles, and fishes; and its primary form undergoes three degrees of modification.

The *first modification*, which is to be esteemed the prototype of the rest, exhibits the following form. From the skin and muscles of the middle part of the body branches arise, which form several trunks, passing separately to the kidneys, in the substance of which they again divide into branches, and are there variously distributed.

In the *second modification*, the veins which return from the posterior part of the body are received into this separate system, of which we are treating. The caudal vein, which brings back the blood from the skin and muscles of the posterior part of the body, divides into two branches, which having received some veins returning from the middle part of the body, flow to the kidneys of each side, and distribute their branches in the parenchymatous substance of these glands.

In the *third modification*, the veins of this system are formed in the same manner as in the preceding, only that the caudal, or other vein returning from the posterior parts, gives off a branch to the *vena portæ*. The blood returning from the middle and posterior part of the body in the first and second modification of this system, is conveyed only to the kidneys; but, in the third, to the kidneys and liver. The inferior *vena cava* of the common venous system, in the *second* and *third* modification of this system, is composed of the veins returning from the kidneys and testicles, or ovaries. In the first modification, the caudal vein receives the veins returning from the kidneys, is united with the veins of the testicles or ovaries, and, in this manner, forms the inferior vena cava.—*Edinburgh Med. and Surg. Journal.*

II. SURGERY AND MIDWIFERY.

Mr. Liston's *Case of a Calculus in the Urethra.*

About two years ago, I was applied to by an old gentleman, on account of difficulty in making water; but, as he at that time declined allowing any examination of the parts concerned, I discontinued my attendance.

A few months afterwards, I was again sent for on account of the same complaints; and the following curious particulars of the case were communicated:—

The patient, forty-seven years previous to his application to me, and then about the age of nine or ten, had incontinence of

urine to a certain degree, and was frequently chastised by his parents on account of this occurrence during the night.

In order to save himself from a flogging, he one evening, before going to bed, passed a brass curtain ring over the penis, as far as he could. This expedient had the desired effect; but in the morning, swelling had come on to so frightful a degree as to prevent his removing it. Notwithstanding all his suffering from pain and difficulty in passing his urine, he made no complaint. The skin under the ring gradually ulcerated; and as the ring sunk into the substance of the penis, the swelling subsided. The integuments met and adhered over the foreign body, and there it remained. After the first disagreeable effects subsided, no more trouble was occasioned. The yard performed all that was required of it. The urine passed easily; and, after a while, he became, the father of a fine family. For some years previous to his first application to me, difficulty in making water had been coming on; and more especially in the night, frequent desire to pass it rendered him very uncomfortable. By his own account, he was under the necessity of keeping a vessel constantly in bed, and was generally disturbed every half hour. His health had from this cause began to suffer. In other respects, the organ, he said, had become quite unserviceable. On these accounts, he was anxious to have the *ring* removed.

On examination, a broad hard substance could be felt, surrounding the penis. Immediately on the knife touching the foreign body, the state of the case became evident. The incision was enlarged with a sharp-pointed bistoury, and the calculus represented in the accompanying drawing easily extracted. The uneasy symptoms immediately disappeared. The patient was obliged to make water only twice during the night. But for his obstinate refusal to allow the use of the bougie during the cure, the wound would have healed without trouble, as it was, a small opening continued, which, however, was much diminished by paring the edges, and bringing them together. A minute fistula still remained.

The only theory of the disappearance of the ring and formation of the stone that can reasonably be offered, in my opinion is this, that a portion of the brass ring having speedily made its way into the urethra, had been acted upon, and washed away by the urine. The remainder, coming more gradually in contact with that fluid, had become encrusted, and the metal incorporated with the uric acid, and of which the stone appears to be composed. If any confirmation of the preceding account of the origin of the disease were necessary, the figure of the stone affords it readily. The patient has since died of pulmonary dis-

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ease, otherwise the above account might not as yet have been made public.

P. S. Since the above account was drawn up, a section has been made of the calculus, and two thirds of the ring found in its centre.—*Edinburgh Med. and Surg. Journal.*

III. PATHOLOGY AND THERAPEUTICS.

Mr. Wallace *on the Medical properties of Chlorine.*

At the present day great importance is attached to the diseaes of the LIVER, and they seem to have apparently increased in a corresponding degree. We cannot help thinking, however, that on this point, there is much exaggeration and misconception, and that this indiscriminate and general way of arranging, and consequently of treating diseases, is very often a cloak for ignorance or indolence in those who are unable or unwilling to undertake the task of drawing a clear diagnosis. Although we differ in some degree from Mr. Wallace as to the frequency, we perfectly coincide with him as to the importance and obscurity of hepatic diseases.

The proofs which Mr. Wallace brings forward of the efficacy of CHLORINE, are principally contained in nine cases, in which hepatic disease was successfully treated, either as a primary affection, or as the cause of secondary disorders of various kinds. We shall make an abstract of one of these to shew the manner and effects of applying the chlorine.

The patient was an unmarried female aged 35; her liver enlarged and hard, not very tender; she had a sensation of dragging in the right side of the abdomen, an incapability of lying on the left side, and a feeling of weariness in both shoulders; she was pallid and emaciated, her bowels constipated, evacuations ash-coloured, urine variable, skin harsh and dry, feet œdematous, appetite not very bad, digestion much impaired. She had used mercury even to salivation, without any benefit. Her complaints arose from mental anxiety at the distance of a year; the first symptom was suppression of the menses. Mr. Wallace began by ordering the general application of chlorine, in the dry form for half an hour each day, at the temperature of 104° Fahr. and aqueous vapour and chlorine to be directed in a stream to the region of the liver, for fifteen minutes daily, with some occasional purgative medicine. At the end of a fortnight her mouth and throat were a little sore, the secretion of saliva was increased, and a thick papular eruption had appeared over the

region of the liver. She was less despondent, the bowels more lax, and the evacuations very scantily tinged by bile; she perspired occasionally, which she had not done previously. In a month her bowels were much more regular, the stools for the most part bilious, occasionally whitish, frothy, and fœtid. The size of the liver had much diminished; she slept during the greater part of the night. There was an universal but mild crop of papulæ. The application of aqueous vapour was united with that of chlorine, in consequence of the dry harsh state of the skin, and the topical application to the hypochondrium, discontinued in consequence of the irritation it had caused. It is needless to detail the farther history of the case, as the improvement from this period was gradual and uniform.

When the skin is exposed to the action of chlorine, sufficiently diluted with air or aqueous vapour, at the temperature of 110° Fahr. sensations are in a few minutes excited on different parts of the surface, resembling those produced by the bites or stings of minute insects. These sensations gradually increase in number but not in severity, and at last become, by their frequent repetition, rather troublesome. The sensibility of the skin is at the same time much increased, and remains so for some time after each operation. Another immediate effect of the above manner of application is an increase of perspiration. This, Mr. Wallace does not think altogether to be attributed to the heat in this operation. One of the most remarkable effects on the skin is an eruption of very minute papulæ, an occurrence which the author considers as desirable, having observed the use of chlorine to be most effectual when it appears. The effects of chlorine on the mucous membranes, are shewn by their increased sensibility, testified by a soreness of the mouth, fauces, and œsophagus, with increased vascularity and minute ulcerations of the throat and mouth. The frequency of the heart's action, and of respiration, is certainly much increased by exposure to chlorine, most probably from the temperature at which it is applied.

Chlorine may be employed in a pure or in a diluted state, either in combination with heated air or aqueous vapour: it may be applied either generally or partially, and at various temperatures. For the administration of diluted chlorine, Mr. Wallace at first used the fumigating apparatus, constructed under his direction, at the Dublin Infirmary for diseases of the skin; he has since adopted a new instrument, which is portable, and peculiarly adapted for this and similar purposes. He does not describe it, as he was unable to procure engravings in time for the publication of this treatise. Perhaps it would have been in this case

better to have delayed the publication. The quantity of chlorine necessary is regulated by the state of the patient, and of the disease. The time for which it is applied, is to be at a medium, half an hour, the temperature from 98° to 120° Fahrenheit. The gas is procured from a mixture of three parts of sulphuric acid, sp. gr. 1400 with four parts of a compound of black oxyde of manganese and muriate of soda, three parts of the latter and one of the former.

In the TREATMENT of diseases by chlorine, Mr. Wallace recommends with it the use of laxatives or purgatives. He adds, that though the advantages to be derived from chlorine, used in the manner above described, are greater than those that can be obtained from nitro-muriatic acid in any form, he has no wish to see the latter method wholly abolished. Its application is more easy in the case of children, and it may be procured when the other cannot. He is not of the opinion of those who view chlorine in the light of a substitute for mercury, altogether there is some similarity in the effects produced by both, particularly as regards their action on the liver and salivary glands. He concludes by disclaiming any pretension to a complete investigation of all the medical properties of chlorine, or of bringing it forward as a specific in hepatic diseases, and by assuring us that his object is to communicate such facts as may bring a new and valuable remedy to the test of experience.—*Quarterly Journal of Foreign Medicine.*

DR. BARON *on Tubercular Diseases.*

Dr. Baron of Gloucester has recently published a volume on tuberculous diseases. The following propositions established in the author's opinion by his former "Inquiry," and the subsequent extracts we have transcribed for the benefit of our readers.

"First, then, I affirm, That tubercles exist in almost every texture of the body, and that their origin and essential character will probably be found to be the same, wherever they are discovered.

"II. That tubercles, in their commencement, are small vesicular bodies (*i. e.* hydatids) with fluid contents.

"III. That these bodies subsequently undergo transformations, on the nature of which their tuberculous character depends; that these transformations are progressive, but not uniform; and that it is only in the larger bodies of this kind that they can be accurately traced. That they commence with an opaque spot, which advances with different degrees of rapidity, and ultimately converts both the contain-

"Tubercles, in their incipient state, may exist without producing much disturbance in the system, and they may pass onwards towards consolidation, if they be not very numerous, without affording almost any signs of their existence; and in this consolidated state they may continue, and not in any material degree tend to abridge life. The unexpected occurrence of solid tubercles or tumours in the lungs of those, who had not previously manifested any symptoms of such disease, bears me out in this assertion. When tubercles are fully consolidated, there is the strongest reason to believe that they do not subsequently fall into a state of suppuration. This occurs chiefly in those that were not destined to arrive at this point.

"The consolidation therefore just referred to, may in some measure be considered as a favourable termination to tubercle, as life has been found to be compatible with their existence, except in cases where they occupied a large proportion of the lung, or produced accretion of the membranes. It is in that period of their progress, which is intermediate between the state last mentioned and their first development, that all the symptoms characteristic of tuberculous phthisis occur. This will be apparent by attending briefly to the ordinary progress of the disease.

"In a person who has tubercles, a frequent cough without any expectoration, but with occasional oppression about the chest, and hurried respiration on slight exertion, may exist at intervals for many months, or even a longer period, without any other sign of disease. What is commonly called a fresh cold, may increase these symptoms and render them more permanent; and then the patient, who never expectorated before, may perhaps be surprised by spitting up a yellowish or whitish globular-shaped mass tinged with blood, or a gush of blood may precede an occurrence of this kind. I have known the last mentioned symptom repeatedly happen to a most alarming extent, in a case where there was great destruction of the pulmonary tissue by the consolidation of tubercles, but, where, though the case proved fatal, there was never any expectoration of the matter from tubercles. It is from this and other kindred cases, that I infer that tubercles once consolidated do not subsequently suppurate or ulcerate.

"Such an expectoration, as I have above described, is a very sure token of tuberculous disease. One of them had given forth its contents, and it plainly tells us that there may be more in a condition likely to do the same thing. In proportion to the number of these bodies, and the rapidity with which their texture is broken down, is the progress of the disease."

"The appearance and the quantity of the matter expectorated differ much at different periods in the same case; that which is discharged from a tubercle, strictly so called, varying from that which may be excreted from the disease of the mucous surfaces, which has been excited by the tuberculous affection. The appearance of pus by no means, as is generally supposed, necessarily indicates the pre-

sence of tubercles, for the contents of these bodies are very often far from being purulent. It is manifest, therefore, that this test, which has been looked for to determine the existence of tuberculous disease, may be fallacious. The reader must remember, that I am here speaking of the matter which is contained in the tubercle itself, in contra-distinction to that which is yielded by the surfaces of tubercles that have ulcerated and discharged their contents, as well as of that which is afforded by the diseased condition of the surrounding parts. * * * * *

"Since it appears that whatever enfeebles the frame, or deteriates the constitution, predisposes to the deseases in question, how shall we avert this predisposition? The answer is apparent: we must do every thing in our power to invigorate and fortify the tender frame; to bring all its functions into a healthy state, and by all means to endeavour to keep them so. But, suppose that this cannot be effected;" "that change of structure has actually commenced; what in this case, is to be done? We must first seek the absorption of that change of structure; or, at all events, prevent its increase."

"If, therefore, we possess any means of amending what is called a scrofulous constitution, or of removing it, after it has shown itself in that form, to which the word *scrofula* is particularly applied; we have sufficient grounds for believing, that what is efficient in regard to an external disorganization may be beneficial in counteracting an internal one: and, moreover, that if we can by any means succeed in changing the habit of a body, which is disposed to outward diseases of this kind, and bring it into a state of health and vigour; that we thereby take the best methods of counteracting similar tendencies of other parts of the frame.

"As far as my experience goes, there is no remedy which possesses such powers in promoting the absorption of morbid growths as the hydriodate of potass. The reports of the influence of this remedy in curing bronchocele, as published by Dr. Coindet, of Geneva, first brought it to my notice. The nature of my own inquiries had led me anxiously to look for some agent of this kind; and having been fully convinced of the affinity between bronchocele and the diseases of which I had treated in my Inquiry, I considered it extremely probable, that a remedy which could remove the first-mentioned species of disorganization might be very beneficial in the others. On this principle I acted; and the result of my trials has fully justified the anticipations which I had formed. * * *

"A young gentlemen, of a delicate frame, had been long affected with frequent cough; but at first he did not expectorate at all. He lost flesh; his pulse increased in velocity; his respiration was frequently hurried; and his countenance and manner indicated most serious disease. He had been in this situation for many months; when, after a fit of coughing, more violent than usual, a small globular-shaped, but somewhat flocculent mass of tuberculous matter, partially tinged with blood, was discharged. The expectoration of

such matter having occurred a great many successive times, at considerable intervals, tended to strengthen my apprehensions. I dwell upon these particulars, because, without such proofs as they disclose, no fair estimate could be formed of the value of the remedy on which I chiefly rely for the removal of the complaint. I consider it, therefore, as proved, that the patient in question had tubercles in the lungs; and that they were rapidly hastening to that stage when recovery becomes almost hopeless.

"My plan of treatment was the following: I kept him in a regulated temperature; I stimulated the chest occasionally by blisters and tartar emetic, and confined him to a strictly vegetable diet. At the same time, anodynes were occasionally used, to abate the frequency of the cough. But knowing that all these means, unless the tubercles themselves could be got rid of, would be of little avail, I administered such remedies as appeared most likely to promote that object. I began with the use of Brandish's caustic alkali, in a little compound infusion of orange-peel, twice a day. After employing these remedies for some weeks, I resolved to give him the hydriodate of potass. He began with eight drops twice a day; and continued it for three weeks without intermission. It was then left off for about a fortnight, and resumed; the quantity having been increased to ten and twelve drops. The consequence of this treatment has been an almost complete removal of the cough; an entire cessation of all expectoration; a complete freedom of breathing; a reduction of the pulse to its natural standard; a healthy state of the stomach and bowels, and a decided augmentation of flesh and strength. The patient is able to take long-continued and active exercise on horse back, and has consequently been exposed to considerable alternations of temperature, without suffering any inconvenience. * * *

"The facts detailed in this chapter touching the use of iodine, will be held, I doubt not, by my professional brethren, to confirm the reports of this medicine as given by Dr. Coindet. I agree with that gentleman, that it has a distinct and direct effect upon the lymphatic system; and that we now seem to be in possession of a remedy calculated to prevent and remove many of the most untractable and hitherto irremediable of human maladies. I have scarcely experienced any of the inconveniences which, he says, sometimes arise from its use; and I am rather inclined to think, that mere friction or inunction will not, in many cases, be successful, without also giving it internally. * * *

Case of Tetanus cured by the Oleum Terebinthinæ. By B. Hutchinson, Esq.

Several cases of Tetanus successfully treated have recently been recorded in the European Journals. Two or three cases related by

Dr. Kennedy of Glasgow, one by Mr. Toms, and another by Mr. Hutchinson; in each of which the oleum terebinthinæ was successfully employed, are sufficient to establish the propriety of the practice.—*Ed.*

John Beedham, a prisoner in the Nottinghamshire House of Correction at Southwell, about thirty years of age, and constitutionally of a delicate and irritable fibre, has been for the last twelve years subject to attack of epilepsy,—the exciting cause of which he attributed to long exposure to the inhalation of oxygenated muriatic acid gas, in his employment at some extensive bleach-works. On his commitment to the House of Correction, I immediately perceived that the energies of the brain, and his intellectual powers, had, from some cause, been materially enfeebled, and many very severe paroxysms of epilepsy soon pointed out to me the cause. Convulsions frequently attacked his whole frame; a frothy moisture issued from his mouth: he would then remain in a state of the most perfect insensibility, and apparently in a profound sleep. After some duration of this torpor, he would gradually be restored to the power of voluntary motion and to his senses; his memory retaining no traces whatever of his immediately preceding state of epileptic paroxysm. Under the impression that congestion of blood in the vessels of the brain might exert its baneful influence in the production of these symptoms, I began my remedial treatment by local and general bleeding, and by purging with calomel and jalap. I then commenced my curative plan by exhibiting antispasmodics and some preparations of the metallic tonics; under which treatment the paroxysms of my suffering patient were less frequent and much less severe.

On making my daily visit to the prison in the beginning of December, I was informed by one of the turnkeys that Beedham was unable to open his jaws, and that they had been immovably closed since my visit on the preceding day. On entering Beedham's ward, I found the turnkey's account correct, with the addition of a sense of stiffness and pain in the back part of the neck, a considerable spasmodic rigidity of the whole of the muscles of the neck and back, accompanied with pain and uneasiness at the lower part of the tongue, and with some interruption to the facility of swallowing his saliva. He was affected with considerable pain at the lower extremity of the strenum, extending into the back, materially deranging the functions of respiration, from the spasmodic contractions of the diaphragm, and of the muscles subservient to that important office; symptoms strongly threatening that peculiar aspect of the disease

termed Prosthotonos. His pulse was 120; his countenance denoting the greatest distress and anxiety; and my prognosis most inauspicious.

I immediately took from his arm about thirty ounces of blood; and, one of the molares of the lower jaw being fortunately wanting, I introduced into his mouth three pills, containing fifteen grains of calomel and two grains of opium. A brisk purging enema, containing one ounce of the oil of turpentine, was administered; and a large blister was applied between his shoulders. On visiting my patient after the lapse of eight hours, the symptoms, instead of showing the least mitigation, were aggravated by an evident increase of muscular rigidity, spasm, and pain. The flexors of the head and trunk became so strongly affected as to balance the extensors, and to keep the head and trunk straight and rigidly extended, incapable of being moved in any way. The enema had produced no effect on the bowels. I immediately resolved upon giving the oleum terebinthinæ a fair trial in this very distressing situation, and directed half an ounce to be given every two hours in gruel.

On the following morning I paid an early visit to my patient, who received me with a cheerful countenance, opening and extending his mouth to show me that he had completely regained the proper command over these muscles. On inquiry, I found that he had taken two ounces of the turpentine; and that, after the second half-ounce had been taken, the spasms began to relax; his pains, consequently, began to abate, and his bowels to be very freely evacuated; and since that period there has not been the least disposition to any return of tetanus. He has suffered several paroxysms of epilepsy, of a much milder character. —*Lond. Med. and Phys. Journal.*

IV. MATERIA MEDICA AND PHARMACY.

On the Preparation of Acetate of Morphia. By Frederick Joyce, Chemist.

Having lately seen much benefit derived in substituting the acetate of morphia for the tinctura opii of the London Pharmacopœia, and as I think it would prove of considerable utility, if generally adopted, I am induced to state the following mode of preparation, which, from several experiments I have lately made, I find to be the most economical, and to answer sufficiently every purpose of a more expensive process.

Five ounces of good dry opium, broken small, are to be put

into a covered vessel with from one quart to three pints of water, and gently boiled until the whole of the soluble matter appears to be taken up. Pass it while still hot through a fine strainer, and, having poured a small quantity of boiling water on the residue, and having strained and mixed the liquors, add so much calcined magnesia that, when boiled for a few minutes, the supernatant liquor shall have entirely lost its bitter taste: the whole is then to be poured on a filter, and the magnesian precipitate collected and dried, which having been put into a retort, pour upon it one quart of alcohol, and apply a gentle heat to bring it to ebullition, at which state it may be of advantage to keep it for a few minutes, in order to entirely dissolve every portion of the morphia. The solution is now to be passed, as quickly as possible, through a filter, the residue is to be washed with a little hot alcohol, and the filtered liquors are to be mixed; return them into a clean retort, and draw off about one half of the spirit. The contents of the retort are now suffered to cool, when the greater part of the morphia (perfectly pure with the exception of colouring matter) will be found crystallized on the bottom and sides of the glass. Acetic acid, to saturation, being now added, the process is to be finished with a sufficient quantity of distilled water to make exactly one quart.

It will be seen, by turning to the Pharmacopœia, that, in this formula, the quantity of opium is doubled. It is, however, of no consequence, as the medical practitioner can, at any time, add either distilled water or proof spirit, and by that means bring it to the strength ordered by the college. In either of these states it will be found to possess every advantage that is derived from opium, without producing the disagreeable headache generally attending the use of the common laudanum.

As this method may be objected to as not making a perfectly pure acetate, the colouring matter may be removed by recrystallizing the morphia previous to its solution in acetic acid, or afterwards by the use of well-burnt animal charcoal, previously digested in muriatic acid: but as the loss in strength by either of these methods is often considerable, and colour in medicine being of very little moment, this additional purification would, in general, be found an evil. It is also, perhaps, necessary to observe, that whenever a solution of morphia in alcohol is to be filtered, it should be kept warm; otherwise the salt deposits on the filter, and the product is lost. The method I find to answer best, is to have a double copper funnel connected at the pipe, and the space between the two filled with boiling water. In this manner the whole of the fluid in the inner funnel is kept hot until it has passed through the filter; it is also furnished

with a cover which fits air-tight, in the middle of which is inserted a long-necked funnel, which reaches near to the bottom of the filter, and by which means it is refilled without removing the cover. This little apparatus is extremely useful for solutions in ether, the outer space being in this case filled with the freezing mixture.—*Lond. Med. Repository.*

M. Blaquire *on the Employment of Sponge Cataplasms.*

The external use of the sponge imbued with some emollient decoction has been recommended by M. Blaquire instead of ordinary cataplasms. The spongy texture thus imbued is scarcely increased in volume; it receives a softness and suppleness, which is of the consistence of mucilage; it applies with the greatest exactitude to the irregularities of the limb, or other parts of the body, extending and contracting itself so that nothing impedes its action. He has found the sponge cataplasms very useful in all cases where emollient poultices are indicated; particularly, where it is desirable to avoid the weight with which diseased parts are fatigued, or where he wishes to save the necessity of frequent dressings. It is hardly necessary to add that by imbibing different substances, the sponge may be rendered emollient, discutient, aromatic, &c. at the will of the practitioner.—*Revue Medicale.*

Hydrioate of Potass.

The importance of preparing the various salts of iodine used in medicine with accuracy, is too obvious to require comment; we therefore regard the following directions respecting the hydriodate of potass as meriting attention:

One part of iodine, and three or four parts of water, are to be introduced into a phial or matrass; by degrees, and at intervals, an excess (one-half part, for example,) of pure filings of iron is to be added. The combination immediately takes place; much heat is disengaged; the iodine disappears, and the liquid becomes of a deep red colour. During this violent re-action, a hydriodate, with excess of iodine, is formed, which has only to be heated, and constantly and slightly agitated, to be converted into a simple hydriodate of iron. The action is shown to be terminated by the almost complete absence of colour in the liquid, but still more certainly by white paper being no longer stained red by it. The liquid is to be filtered, and to be aug-

mented by some parts of water; it is to be placed in a sand-bath, in a retort or matrass, and nearly at the boiling point; then the iron is precipitated by means of pure carbonate or sub-carbonate of potass. This part of the process requires some attention, lest an excess of potass be added; which, however, may be separated by repeated cyrstallizations, or saturated with hydriodic acid. After having filtered, in order to separate the ferruginous precipitate, and having washed it well, it is to be evaporated. The salt may be made to crystallize by cooling or by evaporation; in this latter case, the concentrated solution of the hydriodate of potass is to be placed, not upon a stove, because the salt would form along the sides of the vessel, and the liquid in the end be entirely remixed,—but on a very gentle fire, where the edges of the vessel, being less heated than the bottom, may condense a little of the vapour which rises, and thus prevent the ascension of the salt. By degress, crystals are deposited; when they fill almost all the space occupied by the liquid, it must be allowed to cool; then the mother water is to be poured off, and again evaporated to obtain more of the salt; finally, the crystals are to be entirely dried at a stove or fire, where they undergo a slight decrepitation.—*Journal de Pharmacie.*

Castor Oil.

The processes generally employed for the extraction of the oil from the seeds of the ricinus, are by boiling in water and by expression. The former is expensive, from the quantity of fuel it requires, and affords but a small proportion of oil, which becomes in some degree empyreumatic, from the heat necessary to separate the mucilage. By the second, a milder oil is obtained, it is true, but it is extracted with difficulty, from its viscidity and the great quantity of mucilage which accompanies it. These difficulties are overcome by the following process, founded on the property possessed by alcohol of dissolving the oil, and separating the mucilage. It consists in mixing the seeds, deprived of their rind, and beat into a paste with a certain quantity of alcohol, (four ounces to the pound;) this mixture is subjected to the press; the liquid flows with great facility, and is afterwards distilled; the residue of the distillation washed with many waters. The oil separated by the water is placed upon a gentle fire, to evaporate all the moisture; it is then taken from the fire, and thrown upon filters placed upon a stove heated to 30°; it filters freely, and the oil obtained is very clear and very mild. The products constantly obtained in this way,

by M. FAGOUR, are ten ounces of oil from each pound of the peeled seeds, and only seven ounces with the rinds on. These products greatly exceed the quantity obtained by the old methods. Mr. HENRY obtained a still larger proportion of oil, the difference probably depending on the superior force of the press. Half the quantity of alcohol employed may be recovered by the distillation.—*Medical and Physical Journal.*

MEDICAL LITERATURE OF THE
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ART. I. *Thoughts on the probable destiny of New-Orleans, in relation to Health, Population and Commerce.* BY CHARLES CALDWELL, M. D.

The object of this paper is to prove that New-Orleans is destined to become a commercial, populous and healthy town, and that the popular opinion respecting its sickliness is as unfounded as it is injurious to the prosperity of the place. In the discussion of this subject it is assumed, that a situation inimical to health will imprint characteristic marks of its deliterious influence on its native inhabitants—that the constitution of foreigners who have resided in it must be shattered and feeble—that it must be a stranger to longevity and vigorous old age, that in such a situation native children cannot be very numerous; and that native adults cannot be marked by activity of body or sprightliness of mind.

Now, in our humble opinion, many of these positions have no necessary bearing upon the question at issue. The grave yard and not the aspect of the living, presents the only data by which we can estimate the extent and fatality of diseases, for the most fatal epidemic frequently leaves but few *living* monuments of its ravages. Nor do we believe that a great proportion of children, however animated and sun-burnt they may appear, will be received as satisfactory evidence of the heathfulness of any city.

It is affirmed, however, that the oldest inhabitants of New-Orleans retain that vigour and elasticity, which in more variable climates is peculiar to the young, and that during nine months of the year it is more healthy than any city of equal magnitude in the United States. It is also stated that many of the existing diseases are produced by artificial causes, by the irregularities of individuals who resort to New-Orleans to repair or make

their fortunes, and by the defects of the existing police. When these causes shall cease to operate we are almost persuaded to believe that New-Orleans will again become "in health a Montpelier," and that "old age will be the chief waste-gate of human life."

If the above statements are the result of careful investigation, we are bound to admit that the medical topography of this flourishing city has been greatly misrepresented. At any rate, the advantages of its position, and the facilities it presents for an extensive and lucrative commerce will ensure its prosperity, and while it holds out such brilliant prospects of emolument and fame, "the glittering prize for which man ought to adventure," it will continue to be a place of unusual resort. But the following appeal to a nation distinguished for its commercial enterprise, has convinced us, and we suspect it will lead others to conclude ,that the writer is not entirely satisfied with his own arguments.

"Will the people of the United States, high spirited, and renowned for enterprize and intrepid daring, suffer such brilliant and inviting prospects to be forever darkened by a passing cloud, and withered by the occasional breath of pestilence? If they do, I am deeply and painfully mistaken in their character, and in all my lofty anticipations of their efficiencies. In such an issue of things, European cupidity, profiting by their timidity and neglect, would usurp the places which they should have occupied, and still fulfil, although less rapidly, and at a remoter period, the destinies of New Orleans. To achieve what is great, man must not tremblingly take counsel of his fears, nor always calculate, with a clerk-like proceeding, the chances of danger."

ART. II. *An Experimental Enquiry relative to the Spiræa Trifoliata.* By CHARLES BAUM, M. D.

The uncertainty of this remedy constitutes a serious objection to its employment as an emetic. Dr. Bigelow states that he has sometimes known 15 grains produce a full operation, and frequently twice that quantity has been given without effect. The same observation has been made by others. It has however a place in the Materia Medica of the United States; and those exertions are well directed which serve to make us better acquainted with its medicinal properties. We give the result of Dr. Baum's trials in a very few words. In the first case, he gave fifty grains, without any effect; in the second, forty grains, made not the least impression; in the third, seventy grains produced no perceptible effect; and in the fourth, eighty grains produced a single vomiting. The fifth patient took one hundred grains and vomited once. From these experiments we should conclude that the Spiræa is sufficiently inert to be dis-

carded from our Materia Medica. We have no information respecting the time when the medicine was gathered, or the mode adopted for its preservation; two circumstances which claim particular attention from those who attempt to investigate the properties of our indigenous medicines.

ART. III. *An Essay on the Solanum Tuberosum.* By H. C. WORSHAM, M. D.

In the sixth volume of the Medical Transactions Dr. Latham has recorded several cases in which he employed the extract of Solanum. Tremors and stupor such as occur from the immoderate use of digitalis and conium were produced, when the remedy was given in doses of four or five grains, and as much relief was obtained as could have been expected from the use of those narcotics. "I am unwilling," he adds "to say more about the Solanum Tuberosum, lest I should hereafter be found to have said too much, but I think it superior to Hyoscyamus and Conium, and therefore with confidence recommend it to my professional brethren, not only in cases where these medicines have been most commonly employed, but generally in all chronic cases where there may be excess of painful irritation or irregularity of action." Dr. Worsham on the contrary infers as the result of his experiments, that the extract of the potatoe is possessed of little or no medical properties. From the very cases which he has recorded we are inclined to form a different estimate of its value. To a patient with glandular swelling of the neck and enlargement of the parotid and sub-maxillary glands, the cicuta had been freely administered for nearly two months without any obvious improvement. After using the extract of potatoe a short time, the parotid glands were somewhat diminished, and they continued gradually to decrease until they regained their natural size. A child very much emaciated, and with its head covered with eruptions of a pustular nature, had taken Huxam's tincture and calomel nearly a month without any advantage. The Solanum was given first with rhubarb, and subsequently with bark and other tonics, and under this course the eruption disappeared and the child became convalescent. It is true, the above cases furnish but very equivocal evidence of the remedial powers of the potatoe—at the same time they are sufficient to demand a more extensive investigation. The extract may be obtained with the utmost facility, it exhibits the sensible properties of an active remedy, and we refer the question to such of our readers as are disposed to make the trial, to decide whether it possesses any value or not.

ART. IV. *An Examination of some Medical Doctrines, compared with those of Dr. Broussais.* By M. A. FODERA, M. D.

Our readers are familiar with the contrastimulant theory,

which is advocated with so much ardour by the disciples of Rasori. In France they have also a "new theory" which claims Broussais for its author, and ranks either on the side of opposition or defence the great body of French physicians. According to this doctrine diseases are considered as having determinate seats, and are distributed into the three clauses—of action, irritation and debility.

"Conformable to this doctrine, remedies are either stimulants or antiphlogistics. Broussais regards as the latter, detraction of blood, emollients, acidulated drinks, and other articles of a similar nature—while all other remedies are placed by him in the class of stimulants, such as emetics, purgatives, diaphoretics, tonics, &c. These latter remedies are prescribed in the smallest doses, for fear of irritating the stomach, and in their administration every care is taken to prevent gastric irritation: with the other class, the antiphlogistics, he is more profuse.

"From this imperfect sketch, we may perceive, that although the doctrine of Broussais agrees with the contra-stimulant theory, in general pathology, in considering the most part of diseases as those of action or irritation, and acute and chronic inflammations as diseases of stimulus, nevertheless, in particular pathology, there is scarcely a point of similarity. This is also the case in therapeutics—especially as regards the hardihood of the contra-stimulists, in the administration of the most heroic medicines, and the great circumspection in the adherents of the new doctrine, in giving even the smallest dose of a powerful medicine."

ART. V. *An Account of the Frankfort Mineral Springs, &c. &c.* By Dr. WILLIAM CHURCH.

The Frankfort mineral springs are said to have acquired some celebrity for their medicinal properties; carbonic acid, carbonate of iron, carbonate of magnesia, sulphuretted hydrogen, and muriate of soda, are enumerated among the ingredients with which they are impregnated.

"Drinking the water, with the use of the cold shower bath, has been of great service to persons labouring under chronic rheumatism, gravel, dyspepsia, asthma caused by gastric irritation, general debility of the system, and to convalescents from bilious fever, and liver complaints. The use of the water alone, has cured several cases of cutaneous affections, such as herpes, psora, &c."

ART. VI. *An Essay on Uterine Hemorrhage.* By WILLIAM P. DEWEES, M. D.

It gives us much satisfaction to state that Dr. Dewees will soon publish a volume of Essays on the more interesting parts of Midwifery. The volume should be in the hands of every

young physician, who expects to engage with success in this branch of his profession; and on that account we forbear to remark on the interesting paper before us.

ART. VII. *An Account of a peculiar Venous System, observed in various animals.* By LOUIS JACOBSON.

In the present number, our readers will find an account of the three modifications of the venous system, which are described more minutely in the Philadelphia Journal.

ART. VIII. *Extracts from Magendie's Formulæ, for the Preparation and use of several new Medicines. Translated from the French.* By WILLIAM DARRACH, M. D.

This paper treats of the prussic acid and Solanin. The medical properties of the latter are yet to be investigated, and experience, to use the language of the learned editor, has very much lessened the reputation of the former remedy in the United States.

ART. IX. *Essay on the Question, whether there be two Electrical Fluids, according to Du Faye, or one, according to Franklin.* By ROBERT HARE, M. D.

The writer adopts and defends the Franklinian theory of positive and negative states of the same electric fluid.

ART. X. *Description of an Electrical Plate Machine, the Plate mounted horizontally, and so as to show both negative and positive Electricity. Illustrated by Engravings.* By ROBERT HARE, M. D.

ART. XI. *Description of an improved Blowpipe, by Alcohol, in which the inflammation is sustained by opposing jets of vapour, without a lamp. Also, of the means of rendering the flame of Alcohol competent for the purpose of Illumination. Illustrated by an Engraving.* By ROBERT HARE, M. D.

We could give no satisfactory account of these papers without a reference to the engravings by which they are illustrated. We must therefore refer such of our readers, as feel interested in the subject discussed by Professor Hare, to the Philadelphia Journal.

ART. XII. *Case of extensive Caries of the fifth and sixth Ribs, and disorganization of the greater part of the right lobe of Lungs, with a description of the operation for the same, &c.* Communicated by MILTON ANTONY, M. D.

In consequence of a fall, whereby the sixth rib of the right side was supposed to have been fractured, the patient, 17 years of age, had been for two or three years troubled with ecchymosis, tumefaction, pungent and severe pain, and hectic fever. Dr. Antony found him emaciated, his respiration laborious, the motion of his heart strong and sluggish, no respira-

tion perceptible on the right side, tumefaction in the direction of the ribs, and the skin over the tumor entire and without discoloration. These symptoms were referred to a carious state of one or more ribs, the removal of which was deemed necessary. An incision was accordingly made through the integuments, between the fifth and sixth ribs; a copious discharge followed of a "kind of grume, and old red coagula of lymph, resembling irregular fragments of membranes." The sixth rib was found of a carious consistence, from its sternal articulation to the opposite extremity of the wound. It was removed with ease by the fingers. The inferior edge of the fifth rib, for two inches in extent, was in the same condition, and this was removed by cutting forceps. Having removed the grumous matter within the ribs, Dr. Antony found that the substance of the right lobe of the lungs was destroyed, and with his fingers was able to penetrate the cavity of the thorax in every direction, to the extent of three and a half inches. Notwithstanding the extent of this disorganization there was no cough at any period of the case, either before or after the operation. For sometime the patient's health continued to improve—he was able to go out two or three miles from home, but was soon afterwards seized with the measles, which impaired his general health, and on the 11th of July, four months from the operation, he died.

ART. XIII. *Case of Chronic Diarrhœa, successfully treated by the use of Secale Cornutum.* Communicated by ABRAHAM STOUT, M. D. of Bethlehem, Pennsylvania.

It appears that the patient had uniformly been in feeble health, that she had been afflicted with diarrhœa, which continued upwards of six years, and that she had more recently a suppression of the menses; which occasioned hysteria, vertigo, and headache.

"After using several emmenagogues without success, I was induced to give the secale cornutum a trial, and commenced with the dose of six grains, three times a day. The medicine produced an uneasiness in the uterine region, within restoring the menstrual discharge: on the diarrhœa, however, it had a very salutary effect. By continuing this article a few days, her bowels became so much constipated, that it was necessary to omit it, and resort to laxatives. I directed her to take one or more of the powders of the secale cornutum, only when the complaint made its appearance. She followed my advice, and it had the effect, not only of checking, but of curing this very obstinate chronic diarrhœa. The menstrual discharge was restored, by the use of the tincture of cantharides."

ART. XIV. *Cases illustrative of the use of the Muriate of Lime in Palsy from diseased Vertebræ.* Communicated by ALEXANDER SOMERVAIL, M. D. of Essex, Virginia.

The cases demonstrate the success of Dr. Somervail's practice rather than the efficacy of muriate of lime. In every instance issues, caustic, or blisters were employed; the importance of which in the treatment of spinal diseases has been most fully established. Nevertheless, we are willing to give some credit to the muriate of lime.

ART. XV. *Case of extensive Ulceration of the Uterus, Rectum, and Vagina.* By Dr. WILLIAM F. IRWIN.

The more striking symptoms of this case were leucorrhœa, uterine hemorrhage, irregularity and suspension of the menses, severe griping pains in the bowels, thirst and inclination to vomit, pulse extremely small and feeble, and towards the close of life, the contents of the rectum were evacuated by the vagina. The remedies were ipecacuanha, opium and calomel. Under the pressure of the above symptoms the patient lived from April to October. On dissection "the parieties of the uterus were found unusually thick: right fallopian tube and ovarium adhering to the posterior part of the uterus, and anterior part of the rectum—the neck of the uterus extensively ulcerated, and the ulcerations communicating with the rectum through the vagina. The cavity of the uterus was studded with small cauliflower excresences. On pressing the fundus uteri, between a gill and a half a pint of ichorous matter flowed through the os tincæ, into the vagina and rectum, which formed one common external opening. The os tincæ was dilated to the size of a crown piece, and covered with tubercles and ulcers. The left fallopian tube and ovarium were natural."

ART. XVI. *A Case of Puerperal Convulsions successfully treated with Ergot.* By WILLIAM D. BRINCKLE, M. D.

In a case of puerperal convulsions, the patient was bled three different times, camphor, aperient injections, sinapisms and blisters were used with very little effect. Ergot was next administered in doses of ten grains. "In twenty minutes after the first dose was given, both the force and efficiency of the uterine action was increased, and at half-past eleven the child was born. She had no convulsions after the ergot was administered."

ART. XVII. *Case, in proof of the efficacy of the Actual Cautetery in deep Sinuses.* By NATHAN R. SMITH, M. D.

For a deep seated sinus which had resisted the ordinary means of cure, Dr. Smith proposed the actual cautery. A cylinder of iron "was heated to whiteness, and applied to two places over the sinus, and held upon the part for some seconds. It de-

stroyed the skin, and excited an inflammatory blush upon the surface of the limb. From that day the aspect of the disease was changed, and in a week from that time, I had the satisfaction of dismissing the young man perfectly well, adhesion having taken place throughout the parieties of the sinus."

ART. XVIII. *Case of Encysted Meliceris Tumor, cured by puncture and injection of wine.* By ANDREW PARK, M. D.

In this case an encysted meliceris tumor, situated on the left side of the neck was punctured, its contents evacuatcd, wine injected, and suffered to remain about twenty minutes, after which it was drawn off by a catheter, and in a few days the sac was obliterated. In the treatment of ganglions we have known the same operation practiced with success, and have no doubt of its superiority over blisters, pressure and other remedies which are commonly employed.

ART. XIX. *Case of Tetanus, cured by Tobacco Enemata.* By JAMES NORCUM, M. D. of Edenton, N. C.

This case is recorded to demonstrate the utility of tobacco injections in the treatment of tetanus. Dr. Chapman observes that the practice is not new, several cases having been cited by the late Professor Barlow, in proof of its utility.

ART. XX. *Case of Carotid Aneurism, cured by an Operation.* By JAMES SYKES, M. D. of Dover, Delaware.

In this case the tumor extended from the thyroid cartilage to a considerable distance above the angle of the jaw; the integuments were thin, and the patient complained of pain in the head, giddiness and restless nights. An incision was commenced a little below the base of the tumour and the cellular substance divided, until the sheath of the cervical vessels presented themselves. The artery being separated from the sheath and secured by a double animal ligature, was left undivided. The edges of the wound were brought together by adhesive straps. One year after the operation the "patient experienced good health with a perfect exemption from those symptoms, which previous to the operation rendered life so uncomfortable."

REVIEWS.

ART. XXI. *A Comparative View of the Nervous and Sensorial System in Man and other Animals.* By JOHN C. WARREN, M. D.

ART. XXII. *A Treatise on Nervous Diseases.* By JOHN COOKE, M. D. F. A. S. &c.

For these reviews we must refer our readers to the Philadelphia Journal.